# SEPA Addendum SOUTH LINK

**July 2011** 



Sound Transit
South Link SEPA Addendum July 2011



July 5, 2011

## Dear Recipient:

Sound Transit has prepared this State Environmental Policy Act (SEPA) Addendum for the South Link Light Rail Project, which is an extension from the Airport Station south to the proposed South 200<sup>th</sup> Street Station in the City of SeaTac. This Addendum is an update to the Airport Link Environmental Assessment/SEPA Addendum (EA) issued in May 26, 2005 and the Central Link Light Rail Transit Project Final Environmental Impact Statement (EIS) issued in November 1999. The Addendum describes proposed design refinements and evaluates changes in potential impacts due to these refinements.

The primary South Link project refinements are additional parking at the South 200<sup>th</sup> Station and adjustments to the light rail guideway alignment. Up to 1,100 park and ride spaces are proposed at the South 200<sup>th</sup> Station in three different alternative configurations as well as updated station area access and circulation improvements. The guideway alignment has been modified to improve light rail operations, accommodate updated plans for the South Airport Expressway, add a pocket track, improve clearance and sightlines for roadways and driveways, and improve construction efficiencies and cost.

Copies of the Addendum are available for review at Sound Transit offices, many public libraries, and on the Sound Transit website at www.soundtransit.org. For further information about this Addendum or to request a copy please contact Lauren Swift, Environmental Planner, 401 S. Jackson St., Seattle WA 98104-2826, or 206.398.5000 TTY: 206.398.5410.

Sincerely,

James Irish
Deputy Director

Environmental Affairs and Sustainability

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Sound Transit
South Link SEPA Addendum July 2011

## **Central Puget Sound Regional Transit Authority (Sound Transit) South Link Light Rail Project:** Addendum

To

Central Link Light Rail Transit Project Airport Link Environmental Assessment, May 2005 and Central Link Light Rail Transit Project Final Environmental Impact Statement, November 1999

## Prepared Pursuant to the State Environmental Policy Act, RCW Ch. 43.21.C

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South Link SEPA Addendum

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# **Purpose of this Addendum**

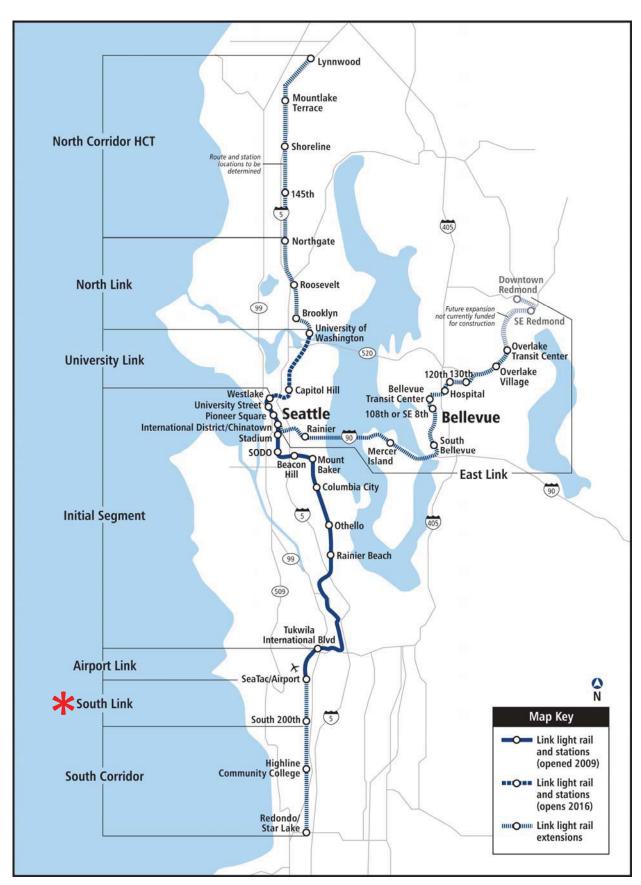
South Link is a proposed 1.6 mile extension of the Central Link Light Rail system from the SeaTac Airport Station to South 200<sup>th</sup> Street Station (Figure 1). South Link is the southern segment of the Airport Link project, which was previously evaluated in the *Central Link Light Rail Project Final Environmental Impact Statement* (November 1999) and the *Airport Link Environmental Assessment*, May 2005 (2005 EA). The 2005 EA was also an Addendum to the 1999 Final EIS. This South Link Addendum (Addendum) describes proposed design refinements and provides an evaluation of how project refinements affect the impact analysis contained in the Airport Link 2005 EA and 1999 Final EIS.

The primary South Link project refinements are additional parking at the South 200<sup>th</sup> Station and adjustments to the guideway alignment (see Figure 2). Sound Transit has refined the South Link guideway and station design in response to new environmental analysis and comments from the City of SeaTac and Port of Seattle Design refinements are proposed to minimize right-of-way impacts, minimize impacts to local homes and businesses, provide clearance over roadways, driveways, and streets, minimize cost for the overall construction of the project, improve operations, improve construction efficiencies, address the need for more parking adjacent to the station, and reduce overall environmental impacts.

SEPA regulations provide that an addendum can be prepared to address changes to a project or new project-related environmental information that does not substantially change the analysis of significant impacts and alternatives in existing environmental documents [WAC 197-11-706]. Sound Transit has prepared this Addendum in order to provide an updated description of refinements made to the South Link segment in the course of design. Based on the analysis summarized in this Addendum, Sound Transit has concluded the proposed design refinements do not substantially change the analysis of significant impacts and alternatives contained within existing environmental documents.

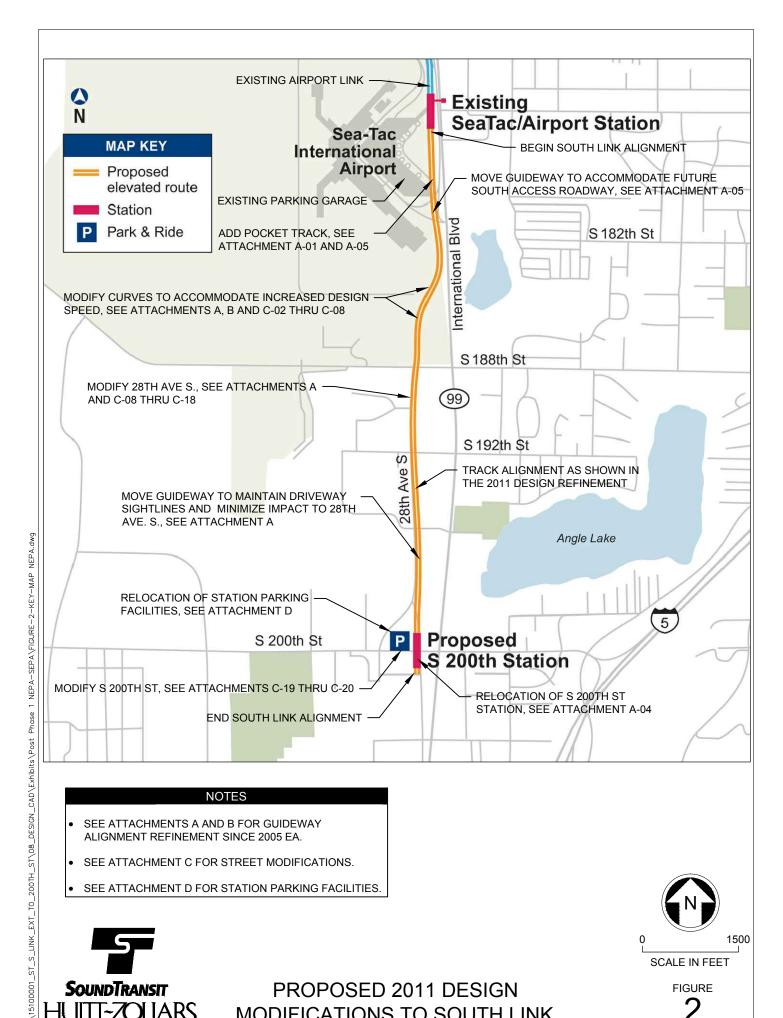
# **Next Steps**

After publication of this addendum, the Sound Transit Board will be in a position to approve moving forward with the design process for the South Link project. Sound Transit plans to continue the design process in consultation with the City of SeaTac and Port of Seattle. Sound Transit will also work with the City of SeaTac to prepare a Development Agreement and apply for a Conditional Use Permit. This process provides for review of detailed designs based on the City's Design Standards for High Capacity Transit (SMC 15.36). Opportunities for comment on the project will be provided at Sound Transit public open houses planned for this fall and winter and the City of SeaTac will hold public hearings during their review of a draft Development Agreement and the Conditional Use Permit application. South Link construction may begin as early as the fall of 2012.



Sound Transit Existing and Proposed Light Rail System

Figure 1

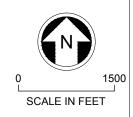


#### **NOTES**

- SEE ATTACHMENTS A AND B FOR GUIDEWAY ALIGNMENT REFINEMENT SINCE 2005 EA.
- SEE ATTACHMENT C FOR STREET MODIFICATIONS.
- SEE ATTACHMENT D FOR STATION PARKING FACILITIES.



PROPOSED 2011 DESIGN MODIFICATIONS TO SOUTH LINK



**FIGURE** 

# **Project Refinements**

This addendum addresses design refinements to the South Link light rail extension depicted in the 2005 Airport Link EA. The current project design modifications are referred to as the 2011 Design Refinements in this Addendum. Elements of the South Link segment that are not described as design refinements in this Addendum are unchanged from the 2005 EA.

South Link begins from the Airport Station and extends south along the east side of 28th Avenue South, transitioning to the west side of 28<sup>th</sup> Avenue South before its terminus at South 200th Street (see Figure 2).

The design refinements described below optimize operational standards for the guideway, minimize right-of-way impacts, minimize impacts to local homes and businesses, provide clearance over roadways, driveways, and streets, minimize cost for the overall construction of the project, improve construction efficiencies, provide more parking adjacent to the station, and reduce overall environmental impacts. The 2011 Design Refinements also reflect comments from the City of SeaTac, Port of Seattle, resource agencies, Washington State Department of Transportation, utility providers, and others. Figure 2 provides an overview of the design refinements and Attachments A though E show refinements in greater detail. The various design refinements are described below.

#### **2011 DESIGN REFINEMENTS**

## 1. Pocket Track South of Airport Station

A 400 foot long pocket track is included south of the South 200th Street Station in the refined design that was not included in the 2005 EA. The pocket track is intended to meet updated Sound Transit operational and design guidelines. Development of the pocket track widens the footprint of the guideway south of the Station (see Attachment A).

## 2. Airport Station to South 188th Street

The guideway alignment was refined since the 2005 EA to have more gradual curves between Airport Station and South 188th Street, allowing for operational speeds of 55 mph. In addition, the guideway alignment was adjusted to coordinate with new information from the Port of Seattle regarding its updated plans for the future South Airport Expressway, and more detailed information on the location of underground utilities. The refined guideway design maintains a minimum horizontal clearance of two feet from existing buildings, avoids conflict with existing bridge structures at the Port of Seattle, and allows for future construction of the South Airport Expressway by the Port of Seattle (see Attachment A).

The refined alignment changes the distance between the guideway and buildings. The guideway is now planned to be closer to the Wally Park Parking Garage, La Quinta Inn and Shell Gas Station and farther from the North Coast Hotel than was evaluated in the 2005 EA. Due to the proximity to the gas station at South 188th Street and 28th Avenue South, the gas station canopy and fueling facilities would be removed for operational safety (see Attachment B).

#### 3. South 188th Street to South 200th Street

The guideway alignment along 28th Avenue South is shifted between zero and nine feet east and in some cases the elevation is increased to maintain vertical clearance for vehicles at driveways. The horizontal shift was made to assure adequate sight distances for vehicles exiting driveways, which would otherwise be affected by guideway columns. The horizontal shift also maintains the driving lanes of 28th Avenue South which have been recently reconstructed. The sidewalk and planter strip would be reconstructed to accommodate column locations (see Attachments A and C).

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This realignment changes the distance between the guideway and several buildings. The guideway would be closer to the Hampton Inn (future), FAA Building, three residential structures, Comfort Inn & Suites, Holiday Inn Express, and Fairfield Inn farther from the Mini Storage than as evaluated in the 2005 EA and. Due to proximity to the home at South 19246 28th Avenue South, this structure will be removed.

#### 4. South 200th Street Station

The South 200th Street Station is elevated over South 200th Street. The location of the Station in the 2011 Design Refinements is approximately 40 feet west of the location proposed in the 2005 EA (see Attachment A and D). This shift places the station on the west edge of 28th Avenue South rather than within the existing roadway (as identified in the 2005 EA) and closer to Puget Sound Energy's (PSE) Sweptwing Substation. This relocation is proposed to avoid impacting an existing 16" high pressure gas line located in 28th Avenue South and a high voltage power transmission line on the east side of 28th Avenue South.

## 5. Station Parking Facilities

In response to requirements in the City of SeaTac's high capacity transit standards, a parking demand study was completed as part of the design refinement process. The study indicated a potential demand for more parking stalls at the Station than were analyzed in the 2005 EA. The 2005 EA included an analysis of 630 parking stalls near the South 200th Street Station. The 2011 Design Refinements increases the number of parking stalls to 1,100. For the purpose of analysis three station parking alternatives are defined in the Addendum. The final location and amount of spaces at the park and ride would be within the range of the three alternatives presented. The three parking alternatives being considered are described below and in Attachment D. Under all three alternatives a traffic signal would be provided mid-block on South 200th Street between 28th Avenue South and 26th Avenue South to facilitate access to the parking facilities.

- a. Alternative 1: This alternative involves constructing a 1,100 stall parking structure. The parking structure would be up to nine levels (with two levels below existing grade), located north of South 200<sup>th</sup> Street and west of 28<sup>th</sup> Avenue South. The 2005 EA analyzed impacts of a two to four story structure. This alternative is generally in the area identified in the 2005 EA for the development of the kiss-and-ride zone (i.e. the pickup/drop off area), but extends west to 26<sup>th</sup> Avenue South to include approximately 0.8 acres of wooded area located on Port of Seattle property. This area would be cleared to accommodate the parking structure.
- b. Alternative 2: Two parking structures would be developed to accommodate additional parking at the South 200th Street Station. One parking structure that could accommodate 470 cars would be developed north of South 200th Street and west of 28th Avenue South, in the location of the parking structure identified in Alternative 1, but would contain up to four levels, rather than nine.
  - A second parking structure would be developed south of South 200<sup>th</sup> Street west of 28<sup>th</sup> Avenue South which could accommodate 630 parking stalls. This parking structure would contain up to six levels, developed in the location identified in the 2005 EA for a parking structure. Currently, there is an existing commercial parking lot on this site.
- c. Alternative 3: One parking structure and one surface parking area would be developed at the South 200th Street Station. A parking structure that could accommodate 470 cars would be developed north of South 200th Street and west of 28th Avenue South, in the location of the parking structure identified in Alternative 1. This parking structure would contain up to four levels.

A second surface parking area, located south of South 200<sup>th</sup> Street west of 28<sup>th</sup> Avenue South would be provided by designating 630 parking stalls in the existing commercial parking facility (SeaTac Park) for use by Sound Transit patrons. The future extension of Sound Transit's light rail service south of the S. 200<sup>th</sup> Street Station will decrease demand for parking at the project site at the time the operations commence to the south; as a result, designated use of this parking area by Sound Transit patrons may be temporary in nature, ceasing once light rail service is extended farther south. If surface parking is discontinued, this property may be developed as part of a transit oriented development.

## Station Area Access and Circulation

Street improvements would be made in the vicinity of the Station Parking Facilities for all parking facility alternatives to accommodate circulation and access (see Attachment C). Modifications to site access at the station and its kiss-and-ride zone required revisions to accommodate future bus circulation. Onstreet bus stops and circulation are included in the 2011 Design Refinements while the 2005 EA included an access road through the Mini Storage property.

The 2005 EA concluded that at the South 200th Station, vehicles would be able to access the kiss-and ride zone from one driveway/intersection on the north side of South 200th Street. In the 2005 EA, there were approximately 50 passenger loading spaces available to serve the South 200th Station passenger loading zone.

The 2005 EA evaluated the following transportation improvements as part of the plans for the South 200<sup>th</sup> Street Station area:

- 28th Avenue South would be converted into a cul-de-sac approximately 250 feet south of South 200th Street and would be open only to northbound transit vehicles to the north of South 200th Street.
- A new roadway would be built (South 198th Street) between International Boulevard and 28th Avenue South to allow transit access to South 200th Station and to allow general purpose traffic to access businesses. This roadway would be limited to right-in/right-out from International Boulevard.
- A new traffic signal would be installed at the intersection of South 200th Street/27th Avenue South/South 200th Station entrance. The north leg of the intersection would provide access to the passenger drop-off/pick-up area, short-term parking, and bus access. The south leg of the intersection would provide access to the park-and-ride located to the east of 27th Avenue South.
- Left turn pockets would be provided for eastbound and westbound traffic on South 200th Street.
- At the intersection of International Blvd. and South 200<sup>th</sup> St., Sound Transit would work with the City of SeaTac to determine appropriate improvements that could include a dual southbound left turn lane by 2015 and a dual westbound left turn lane by the year 2030, or other measures as agreed to with the City of SeaTac.

Transportation improvements in the 2005 EA have been revised to respond to impacts identified in the 2011 Design Refinements:

Rather than converting 28th Avenue South to a cul-de-sac, the 2011 Design Refinements show 28th Avenue South having restrictions for turns at the South 200th St. intersection where a channelized median would be developed (see Attachment C-27).

- Construction of South 198<sup>th</sup> Street is no longer included in the design.
- South 200<sup>th</sup> Street will be improved to include new bicycle lanes, bus pullouts, and widened sidewalks.
- At the intersection of International Blvd. and South 200th Street, in 2030, mitigation would be required on the eastbound and northbound approaches, rather than the westbound and southbound approaches.
- Parking structure to include ground floor retail/commercial uses per SeaTac Municipal Code 15.36.440

# **Change in Environmental Effects and Mitigation**

The revised South Link design would not change the primary characteristics of the light rail project evaluated in the 2005 EA. Mitigation commitments identified in the 2005 EA have been refined and in some cases impacts have been reduced or avoided, reducing mitigation needs. Impacts too many of the elements of the environment discussed in the 2005 EA would remain relatively unchanged or reduced, and do not require additional discussion in the Addendum. These areas include the following:

- Neighborhoods and Populations
- Energy
- Geology & Soils
- Hazardous Materials
- Electromagnetic Fields
- **Parklands**

Additional information associated with the project changes made since issuance of the 2005 EA is provided for the following elements of the environment.

- Transportation
- Land Use & Economics
- Acquisition, Displacements, & Relocations
- Visual Resources & Aesthetics
- Air Quality
- Noise & Vibration
- Ecosystems (Vegetation & Wildlife)
- Water Resources
- **Public Services**
- Utilities
- Historic, Cultural, & Archeological Resources
- **Construction Impacts**
- **Cumulative Effects**

Sound Transit has concluded that the proposed design refinements do not substantially change the analysis of significant impacts and alternatives contained within existing environmental documents.

## A. TRANSPORTATION

The 2005 EA included a traffic impact study documenting impacts of a 630 stall parking facility serving the South 200<sup>th</sup> St. Light Rail Station. The 2005 EA identified one intersection with impacts requiring mitigation measures - International Blvd / South 200th St. The 2005 EA indicates all other City of SeaTac segment intersections analyzed experienced minor impacts not requiring mitigation. The 2005 EA considered the following improvements.

- 630 parking stalls.
- 50 kiss-and-ride passenger loading spaces.
- 28th Avenue South would be converted into a cul-de-sac approximately 250 feet south of South 200th Street and would be open only to northbound transit vehicles to the north of South 200th Street.
- A new roadway would be built (South 198th Street) between International Boulevard and 28th Avenue South to allow transit access to South 200th Station and to allow general purpose traffic to access businesses. This roadway would be limited to right-in/right-out from International Boulevard.
- A new traffic signal would be installed at the intersection of South 200th Street/27th Avenue South/South 200th Station entrance.
- Left turn pockets would be provided for eastbound and westbound traffic on South 200th Street at 27th Avenue South.
- Sound Transit would work with City of SeaTac to determine mitigation at International Blvd. / South 200th St. such as dual southbound left turn lane by 2015 and dual westbound left turn lane by 2030.
- Until these improvements could be implemented, an interim measure such as extending westbound left-turn storage length should be considered.

For the proposed project, the size of the parking facility increased from 630 stalls to 1,100 stalls. Three parking facility alternatives are being analyzed. An updated analysis was performed to determine impacts at four major intersections within a half-mile radius of the parking facility site to define impacts.

The 2011 Design Refinements considers the following improvements:

- 1,100 stalls are included in the project.
- The design refinement includes 10 kiss-and ride-passenger loading spaces
- Rather than converting 28th Avenue South to a cul-de-sac, the 2011 Design Refinements shows 28th Avenue South having restrictions for turns at the South 200th St intersection where a channelized median would be constructed to restrict through and left turn movements.

 Construction of South 198th Street is no longer proposed. South 200th St will be improved to include, new bicycle lanes, bus pullouts, and widened sidewalks.

The impacts of the Project Conditions were compared with the No-Build Conditions for 2015 and 2030 and to results from the 2005 EA.

As part of the 2011 Design Refinements a report analyzing traffic impacts of an 1100-space parking facility was prepared<sup>1</sup>. The study collected traffic volume data at the study area intersections and it was found that traffic volumes decreased from 2004 (as evaluated in the 2005 EA) to 2010.

To check if the decrease in traffic volumes was due to inaccurate counts or extraordinary conditions on days of counts, additional data were obtained from WSDOT. The WSDOT data were consistent with the 2011 traffic count results. Growth rates were applied to arrive at volumes for No-Build Conditions for 2015 and 2030. The growth rates were obtained from the 2005 EA and were checked against data from the Puget Sound Regional Council (PSRC) transportation model. The 2005 EA and PSRC data were consistent. Local trip generation data were collected at Tukwila International Blvd. Light Rail Station for a site with 603 parking spaces. The local data were proportionally applied to the proposed South 200<sup>th</sup> St. Light Rail Station with 1,100 parking spaces. Trips were distributed and assigned to study area roadways using zip code data surveyed from transit riders at the Tukwila International Boulevard Light Rail Station. The trips were added to study area intersections and modeled to determine the impacts.

The revised project causes impacts to Intersections at South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South and South 200<sup>th</sup> Street and North Parking Garage Entrance in the 2015 Project Conditions and to Intersections at South 200<sup>th</sup> St and International Blvd., South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South, and South 200<sup>th</sup> Street and North Parking Garage Entrance in the 2030 Project Conditions. These impacts are similar whether Parking Facility Alternative 1, 2 or 3 is constructed.

The 1,100 stall parking facility will increase peak hour trip generation over the 630 stall parking facility analyzed in the 2005 EA. As a part of the traffic analysis for the 2011 Design Refinements, background traffic was found to be lower than projections evaluated in the 2005 EA due to lower growth.

Following analysis of the intersections within the study area, the LOS at these intersections was shown to have improved over the results contained within the 2005 EA.

## South 200th Street and International Boulevard

2015: operates within the City's criteria for Level of Service (LOS).

2030: exceeds the City's criteria for LOS with a LOS F.

## South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South

2015: side street approaches exceed the City's criteria for LOS with a LOS F.

2030: side street approaches exceed the City's criteria for LOS with a LOS F.

**South 200<sup>th</sup> Street and North Parking Garage Entrance** The project creates a new major intersection on South 200th St. at the main driveway entrance for the station. The new movements impact the traffic circulation at this intersection and the existing SeaTac Park driveway.

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<sup>&</sup>lt;sup>1</sup> May 18, 2011. 1,100 Parking Space Traffic Impact Study South 200<sup>th</sup> Street Light Rail Station, South Link Airport Station to South 200<sup>th</sup> Street.

Mitigation measures to address the impacts were identified using the City's published mitigation criteria. Mitigation is required at the South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South and South 200<sup>th</sup> Street and North Parking Garage Entrance intersections in the 2015 Project Conditions and at the South 200<sup>th</sup> Street and International Boulevard, South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South and South 200<sup>th</sup> Street and North Parking Garage Entrance intersections in the 2030 Project Conditions. The impacts are similar whether Alternative 1, 2 or 3 is constructed. The impacts can be reduced; mitigation measures are summarized as follows (see Attachment E):

## **2015 Mitigation Measures**

- A. South 200<sup>th</sup> Street and 28<sup>th</sup> Avenue South and South 200<sup>th</sup> Street: Channelized median on South 200th St. and turn lane restrictions for 28th Avenue South at South 200<sup>th</sup> Street. Turning restrictions may impact the most convenient access to properties on 28<sup>th</sup> Avenue South.
- B. South 200<sup>th</sup> Street and North Parking Garage Entrance: Consider southbound dual lefts exiting garage at South 200<sup>th</sup> Street and North Parking Garage Entrance (Main Driveway) to reduce queues within the parking facility for vehicles leaving the north garage (this measure not required to mitigate impacts to LOS on public streets).
- C. South 200<sup>th</sup> Street and North Parking Garage Entrance: Signalize South 200<sup>th</sup> Street and North Parking Garage Entrance (Main Driveway) and narrow the driveway at SeaTac Park to align with new signal proposed at South 200<sup>th</sup> Street and North Parking Garage Entrance (Main Driveway)
- D. Close the west driveways at 28th Avenue South at the Chevron gas station to prevent cut through traffic from the Kiss & Ride exit

## 2030 Mitigation Measures

- E. South 200<sup>th</sup> Street and International Boulevard: Additional eastbound right turn lane
- F. South 200<sup>th</sup> Street and International Boulevard: Additional northbound left turn lane (dual left)

These improvements will mitigate traffic impacts, contributing the proportionate share of the costs of these improvements as determined by the project's ratio of trips at the intersection or another equitable method, or other appropriate mitigation as agreed to by the City of SeaTac. As design of the South Link project proceeds, Sound Transit will continue coordination with the City of SeaTac to refine the transportation analyses and mitigation.

Sound Transit will also provide Station area frontage/street improvements (such as sidewalks and bike lanes) to facilitate non-motorized travel adjacent to the Station at (1) South 200<sup>th</sup> Street from 26<sup>th</sup> Avenue South to International Blvd., (2) 28<sup>th</sup> Avenue South from southern Station limits to S. 200<sup>th</sup> Street and (3) 28<sup>th</sup> Avenue South from S. 200<sup>th</sup> Street to the intersection of 26<sup>th</sup> and 28<sup>th</sup> Avenue South. Other nonmotorized station area access improvements will be addressed by Sound Transit in response to the City of SeaTac's High Capacity Transit Ordinance (HCT).

## **B. LAND USE AND ECONOMICS**

The 2005 EA indicated that a 630 stall parking facility would be developed south of the South 200<sup>th</sup> Street Station. The 2005 EA documents that the City of SeaTac's long term plans to transition this area into a business district would be compatible with the presence of park-and-ride facilities.

The revised project proposes to develop a 1,100 stall parking facility (see Attachment D). Three development alternatives are under consideration. The three parking facility development alternatives all consider using an undeveloped 0.8 acre tract of land located at the northwest corner of South 200<sup>th</sup> Street and 27<sup>th</sup> Avenue South that was not considered in the 2005 EA. The tract of land is under ownership of the Port of Seattle.

Development of the parking facility on the 0.8 acre tract of land owned by the Port of Seattle would require a land use approval from the City of SeaTac for "non-aviation use" in the Airport Operations (AVO) zone.

Parking facility alternatives 2 and 3 would also extend to an area south of South 200<sup>th</sup> Street, which was the location analyzed in the 2005 EA (Alternative 2 would develop a multi-level facility; Alternative 3 would use surface parking facility). This site is currently a commercial parking facility. If the surface parking Alternative 3 is selected the parking area would be temporary and likely cease operation once light rail operations commence south to the next station.

A new approval from the City of SeaTac is required to extend the development of the parking facility onto the undeveloped 0.8 acre undeveloped tract of land not considered in the 2005 EA. Due to the size and location of the 0.8 acre undeveloped tract of land and physical constraints, the use of the tract for the development of the parking facility would not have land use and economic impacts beyond those considered in the 2005 EA.

The refined South Link project is similar to the original project and would have minimal land use and economic impacts. Given the volume of businesses and employment in the area, as well as considering the economic effects on a local and regional scale, the overall effect on economic conditions, including employment, should be minor.

## C. ACQUISITION, DISPLACEMENTS, & RELOCATIONS

The 2005 EA summarized likely property acquisitions, based on conceptual design (see Table 1. below). Appendix D of the 2005 EA identified potential property acquisitions for the South Link Project, from Airport Link to the South 200<sup>th</sup> Station. The 2005 EA identified 16 properties to be fully acquired and 21 partial acquisitions.

Table 1. Acquisitions, Displacements, & Relocations

	2005 EA		-	2011 Design Refinements		Change in Impacts	
Parcel by Type: Airport Link to South 200 <sup>th</sup> Station	Partial	Full		Partial	Full	Partial	Full
Commercial/Private Institutional	14	10		9	1	-5	-9
Public/Institutional	6	1		1	2	-5	1
Residential Single- Family	0	3		2	2	2	-1
Residential Multi- Family	1	2 (0 units)		0	1	-1	1
Totals	21	16		12	6	-9	-10

As part of the 2011 Design Refinements, acquisitions required to facilitate the Airport Link extension to the South 200th Station project were identified (see Attachment F). These are likely property acquisitions based on the 2011 Design Refinement; it is important to note the total number of acquisitions should not be interpreted as the final determination regarding property acquisition, and the list could be updated during final design. A total of 6 properties to be fully acquired and a total of 12 partial acquisitions would be needed to facilitate development of the South Link alignment and Station facilities. Partial acquisitions require that a part of the parcel be acquired, but does not dislocate the use.

The change in impacts is less than in the 2005 EA. Sound Transit would compensate affected property owners according to the provisions specified in Sound Transit's adopted Real Estate Property Acquisition and Relocation Policy, Procedures, and Guidelines. Sound Transit would comply with appropriate provisions of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Uniform Relocation Act Amendments of 1987 and the State of Washington's relocation and property acquisition regulations (Washington Administrative Code [WAC] 468-100).

The 2011 Design Refinements reduced the number of full and partial acquisitions required, largely due to station area revisions which reduce the amount of property required to accommodate the station and parking facilities. The only additional property being fully acquired that was not reflected in the 2005 EA is an undeveloped 0.8 acre Public/Institutional tract owned by the Port of Seattle. Aerial easements will also be required to facilitate the guideway and utility relocations.

In addition to the potential property acquisitions described, the project would also require aerial easements, temporary construction easements and use of public right-of-way not listed here. Aerial easements and temporary construction easements required for the project would be needed on the Port of Seattle property north of South 188<sup>th</sup> Street, on properties located east of 28<sup>th</sup> Avenue South, and potentially on properties located south of South 202<sup>nd</sup> Street.

## D. VISUAL RESOURCES & AESTHETICS

The 2005 EA indicates, "overall, the impact to visual resources would be expected to be low given the relatively low degree of change to an already developed urban landscape." Conditions to the south of the Airport/SeaTac Station would remain similar to the original [1999 Central Link EIS] project. The 2005 EA planned for the South 200th Street Station and its park-and ride to occupy properties north and south of South 200th Street. In addition to the elevated guideway, a bridging platform would cross over South 200th Street and tail tracks would extend to the south of South 200th Street. A two to four level parking structure would be built on the existing park-and-fly lot; the parking structure would be similar in scale to other developments in the area, including multi-story hotels, businesses, and government facilities. It was anticipated that relatively low viewer exposure and sensitivity in this area would result in moderate impact levels from this structure.

The 2011 Design Refinements have minor changes to the project.

## Guideway

The 2011 Design Refinement has modified the guideway and moved it slightly to the east in many areas. This has placed the guideway and column locations closer to some hotel rooms and the site of the future Hampton Inn. The 2011 Design Refinements have considered that the typical guideway structure may be slightly deeper (about 1.5 feet) than was used to analyze impacts in the 2005 EA (see Attachment B). Adequate clearances for vehicles using drives (curb cuts) and roads located under the guideway necessitated a slight increase in height above grade in some locations due to the increased depth of the guideway structure. In addition, landscaping is proposed along 28<sup>th</sup> Avenue South (see Attachment C-22).

## Parking Structure Alternatives (see Attachment D)

#### Alternative 1

The proposed Alternative 1 structure is likely to include 7 levels above grade rather than four as evaluated in the 2005 EA and the location would be shifted to north rather than south of South 200th St. This is an increase in height above grade of 3 levels.

#### Alternative 2

The proposed Alternative 2 includes one structure similar to that evaluated in the 2005 EA South of South 200th Street and a second four level structure north of South 200th Street.

#### Alternative 3

The proposed Alternative 3 structure would likely include four levels above grade as evaluated in the 2005 EA but the location would be shifted to north rather than south of South 200th St. Existing on grade spaces south of South 200th Street would be shifted to use by Sound Transit with no change in aesthetic impacts.

The parking structures would be similar in scale to other developments in the area, including multi-story hotels, businesses, and government facilities. The changes in the guideway alignment and height are not substantially different from the project evaluated in the 2005 EA. Overall, the low viewer exposure and sensitivity in this area would result in a moderate visual impact from the project. The overall impact to visual resources is, therefore, not expected to change from the moderate levels identified in 2005 EA.

## E. AIR QUALITY

The 2005 EA indicated the proposed Airport Link is a transportation project located in a maintenance area for Carbon Monoxide (CO) and ozone; a project-level Transportation Conformity analysis was performed and included in the 2005 EA. No new violations of the federal air quality standards were projected to occur with Airport Link nor would any predicted violations under No-Build conditions increase in frequency or severity under the Build alternative.

Emissions calculated and presented in the 2005 EA indicate that both the original project and Airport Link represent a decrease in emissions as compared to the No-Build alternative. Air quality impacts during 2007 year construction were expected to remain below the de minimis threshold as specified in the General Conformity regulations.

The updated May 2011 Transportation Conformity analysis for the S. 200<sup>th</sup> Street station and its parking garage alternatives indicate the revised project would cause no significant air quality impacts.

An updated CO hot-spot analysis was conducted for the signalized intersections that would be affected by the South 200<sup>th</sup> Street station. The revised analysis demonstrates the increases in peak-hour traffic volumes at the maximally-affected intersections would not cause ambient CO concentrations to approach the National Ambient Air Quality Standards.

Construction emissions would continue to be mitigated using Best Management Practices as required by Puget Sound Clean Air Agency regulations. Construction emissions are expected to cause no significant impacts.

Based on this updated analysis it is concluded the refined project and its alternatives would not cause a significant air quality impact. The overall impact to air quality is not expected to change from the moderate levels identified in 2005 EA.

## F. NOISE & VIBRATION

### Noise

The 2005 EA identified noise impacts at a hotel and two single family residences along 28th Avenue South due to proximity to the guideway. An additional noise impact related to buses and general operations was also previously predicted near the park and ride for a single family residence near South 200th Street. Mitigation for all noise impacts included sound walls along the elevated guideway.

As a part of the 2011 Design Refinements, the guideway is elevated within close proximity to buildings between the Airport Station and South 200<sup>th</sup> Street due to right of way constraints. Generally, the guideway is higher than adjacent buildings except for some adjacent hotels and parking garages several stories high.

The noise and vibration analysis was updated to reflect on the revised alignment, location of crossovers, current land uses, and recently measured noise and vibration levels for Sound Transit's existing trains.

Since the 2005 EA, there have been modifications to land use near the proposed alignment. There are new hotels that were constructed and some of the existing hotels have changed ownership. The project team reviewed land use along the corridor to verify all land use along the corridor and search for any planned and permitted uses not yet constructed.

Evaluation of noise impacts from South Link was based upon the change in noise level due to the proposed project at each potentially affected sensitive receiver (residences and hotel rooms). Analysis was performed for noise sensitive units within 350 feet of the proposed corridor. This includes 10 hotels, and five single-family residences. Because of the close proximity of the guideway to buildings along this alignment, noise impacts over the Federal Transit Administration's (FTA) criteria were identified at many of the land uses in the corridor. Table 2 summarizes impacts identified with and without recommended noise mitigation measures. More detailed noise and vibration information and maps are also provided in Attachment G.

Table 2. Light Rail Noise & Vibration Summary

	Moderate Light Rail		Severe Light Rail Impacts		Park & Ride Noise		Vibration Impacts	
	Impacts				Impacts			
Land	Before	After	Before	After	Before	After	Before	After
Use	Mitigation	Mitigation	Mitigation	Mitigation	Mitigation	Mitigation	Mitigation	Mitigation
Hotel	108	0	153	0	4	0	3	0
Rooms								
Single	4	0	0	0	0	0	2	0
Family								
Other	N/A	N/A	N/A	N/A	0	0	1	1
Uses								

The noise analysis identified severe noise impacts at up to 153 hotel rooms, with moderate impacts to an additional 108 hotel rooms and 4 single-family residences. Although there is a crossover south of the Marriott Fairfield Inn, it is approximately 300 feet from the hotel and has minimal overall effect on the noise projections.

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Noise walls would reduce the exterior noise levels to below FTA impact criteria at the four single family residences (one of the five residences in the project area would be removed). Noise walls would reduce the exterior impacts at most hotels to below the FTA criteria. However, even with noise walls, some hotel rooms closest to the guideway could have exterior noise levels that exceed the moderate FTA criteria. Therefore, an interior noise impact assessment was performed.

Sound Transit would typically implement sound insulation of the hotel rooms where noise walls are not completely effective. Sound Transit policy is to reduce interior noise levels below the HUD 45 dBA Ldn interior criteria. However, the City of SeaTac Sound Transmission Code requires bedrooms near the airport to be designed to achieve a 30 dB interior noise reduction from aircraft noise. Using a more conservative interior noise reduction of only 25 dB, the noise analysis shows that the combination of the interior noise reduction and noise walls on the guideway would achieve interior noise levels below the HUD 45dBA Ldn criteria in most of the 113 hotel rooms. Because the LaQuinta Inn was constructed prior to the City's Sound Transmission Code adoption, it may not have the noise reduction improvements to address aircraft noise. Therefore, additional building sound insulation may be required at this hotel. During final design, additional testing will be done at La Quinta Inn to confirm the impact to these rooms. If the impact is confirmed, Sound Transit will mitigate the impacts with residential sound insulation. Additional testing will also be done at the two hotels for which the analysis assumes adherence to the City's Sound Transmission Code, Holiday Inn Express and Marriott Fairfield Inn, to confirm that the existing exterior to interior noise reduction is sufficient, consistent with City requirements. If the reduction is not sufficient, Sound Transit will provide residential sound insulation.

## Station and Park and Ride Noise

The 2005 EA identified a noise impact related to bus activity at a single family residence on South 200<sup>th</sup> Street from the park and ride, although the residence would have been displaced in the 2005 EA and current design. The revised station and park and ride plans were evaluated, and no noise impacts are predicted from the station operations beyond those already identified at the Skyway Inn Motel from the light rail elevated guideway and station bells. The noise from the parking garage operation, regardless of alternative selected, is not predicted to result in a noise impact under FTA noise criteria or the SeaTac Noise Control Ordinance.

In addition, no substantial change in the vertical or horizontal alignment of roadways, is planned as part of the project, so no traffic noise analysis is required (proposed roadway modifications do not qualify as a substantial change in a roadway alignment under Federal Highway Administration (FHWA) or Washington State Department of Transportation (WSDOT) criteria).

## **Vibration**

The 2005 EA did not identify vibration impacts for the South Link segment. Vibration impact analysis was updated for the 2011 Design Refinements. Vibration predictions were made for all vibration sensitive properties along the corridor. Vibration impacts were found to occur in 6 structures near the guideway. High-resilient direct fixation track fasteners are proposed to mitigate predicted vibration impacts and would be effective at all locations except one.

The only site where vibration levels are predicted to exceed the FTA criteria after mitigation is a commercial structure in the northeast quadrant of South 192nd Street and 28th Avenue South. Vibration levels at this building exceed the FTA criteria, even with the resilient fasteners, due to the proximity of the building to one of the support columns of the elevated guideway. If the column cannot be relocated farther from the building, additional testing will be performed prior to or during final design to verify the impact and determine measures to mitigate residual vibration impacts to comply with FTA requirements. If vibration levels are found to be above the FTA criteria, alternative methods to reduce the vibration impact will be considered. Sound Transit is committed to mitigating residual vibration impacts to comply with FTA requirements.

## G. ECOSYSTEMS

The 2005 EA indicates most of the areas affected by the development of the light rail have been previously developed with transportation facilities, buildings, or landscaped areas. Natural ecosystems are limited. From the Airport Station to South 200<sup>th</sup> Street, Airport Link follows the original project route. Impacts associated with this alignment include loss of 0.60 acres of urban songbird habitat at the South 200<sup>th</sup> Street Station.

The 2011 Design Refinements propose to develop 1,100 parking stalls. The three parking facility development alternatives all consider using an undeveloped 0.8 acre tract of wooded land that provides songbird habitat located at the northwest corner of South 200<sup>th</sup> Street and 27<sup>th</sup> Avenue South. The tract of land is slightly larger than what was considered in the 2005 EA.

The 2011 Design Refinements will have a small change in impacts compared to those evaluated in the 2005 EA. There is an approximate 0.2 acre increase in the affected songbird habitat evaluated in the 2005 EA and the amount to be disturbed as part of the development of the Station and parking facility as part of the 2011 Design Refinements.

## H. WATER RESOURCES

Drainage systems in the 2005 EA were assumed to meet the requirements of the City of SeaTac. The 2005 EA indicates, "The increase in impervious surface is minor in terms of existing conditions in the watersheds, and stormwater detention and treatment for all new impervious surfaces would minimize impacts on streams, wetlands, and fish habitat. Sound Transit and the Port will be constructing stormwater detention and water quality treatment facilities for the South Link, meeting the requirements of applicable federal, state and local rules, regulations and permits. The project would meet the applicable National Pollutant Discharge Elimination System (NPDES) permit requirements. "

The quantity of pervious surface converted by the 2011 Design Refinements to impervious surface has been reviewed and found to be similar to the 2005 project. The 2011 Design Refinements meets the 2009 King County Surface Water Design Manual, adopted by the City of SeaTac in 2010. These standards are more stringent than those in effect in 2005. In addition, Low Impact Development (LID) concepts have been incorporated into the project including infiltration where feasible.

The drainage system design has been refined to meet more stringent flow control and water quality standards and to incorporate LID concepts. These measures would reduce impacts over those identified in the 2005 EA.

## I. PUBLIC SERVICES

Sound Transit applies principles of Crime Prevention through Environmental Design (CPTED), uses specific hardware and equipment, and employs personnel at the stations as well as on the trains to reduce the potential for criminal activities. If crimes were to occur along the project corridor it would likely occur at a station or a park-and-ride lot. However, increases in activity (i.e., number of people) and the introduction of security measures could act as a deterrent to crime.

Sound Transit contracts with the King County Sheriff's Office and works in partnership with local law enforcement to create a safe regional transit system. 2010 crime statistics show that the crime rate per number of riders at transit facilities and on light rail and commuter rail trains is substantially lower compared with overall per capita crime rates in Seattle, Tukwila, and SeaTac.

The station will be designed using CPTED principles and include numerous features to address security issues. Design of the station will be spacious, well lit, and uncluttered and provide open access. Attention is given to lines of sight and visibility, with corners, dark or hidden areas, and opaque shelter screens eliminated or minimized. Public waiting areas, including station platforms, are to be easily visible to other patrons and to police and Sound Transit security personnel. CPTED design measures minimize impacts by controlling passenger movements with specified traffic flow patterns or a central platform; creating areas that can be easily viewed by closed-circuit television (CCTV) cameras or persons (including transparent exterior walls and good lighting); using vandal proof surfaces and lighting; and using easily maintained materials.

Other measures to minimize crime include using equipment (i.e., CCTV, sealed fareboxes on ticket vending machines, and automatically sealed exits), using anticrime programs (such as anti-graffiti programs), and having Sound Transit police, police from local jurisdictions, and Sound Transit security personnel patrol the stations and the trains.

Consistent with literature findings that crime is reflective of the surrounding neighborhoods, no adverse impacts on police services are expected.

## J. UTILITIES

The 2005 EA indicated that throughout the light rail alignment and under relocated roadways, existing underground gas, water, and sewer lines and other pipes and conduits would be relocated or otherwise protected before or during construction, and would therefore not be affected by the weight of elevated segments, at grade segments, or relocated roadways. In the 2005 EA, it states that the light rail route will travel near the substation (Sweptwing) located on 28<sup>th</sup> Avenue South near South 200<sup>th</sup> Street, but should not affect this facility.

As part of the 2011 Design Refinements water, sewer, and telecommunications providers have indicated adequate capacity to provide utility service to the South Link. Column and guideway placement have been adjusted to coordinate with information regarding utilities.

New column placements created utility conflicts not specifically identified in the 2005 EA. Overhead 115 kV lines cross 28<sup>th</sup> Avenue from the PSE Sweptwing Substation to the east side of 28<sup>th</sup> Avenue, the lines continue on the east side of 28<sup>th</sup> Avenue South and cross South 200<sup>th</sup> Street. The existing overhead lines conflict with the elevated guideway construction and/or elevated guideway; as a part of the 2011 Design Refinements, overhead lines will be raised. The 2011 Design Refinements for the South Link project may require greater coordination and design considerations to relocate the Olympic pipeline (jet fuel line, adjacent to the Coast Gateway Hotel under Air Cargo Rd).

The 2011 Design Refinements include additional detail that was not available at the time of the 2005 EA, and therefore some utility information was not specifically addressed. The 2011 Design Refinements were prepared in coordination with utility purveyors and the project will comply with applicable ordinances and procedures to prevent or minimize potential operational impacts on utilities. The design team will coordinate switchover/maintenance of services with affected utilities; in addition, utility agreements will address access during both construction and operation of the light rail facility. Therefore impacts are no greater than as described in the 2005 EA.

## K. HISTORIC, CULTURAL, & ARCHEOLOGICAL RESOURCES

Discussions in the 2005 EA indicated Airport Link and related projects would not adversely affect any historic resources within the project's area of potential effect, which was defined for Central Link as within 200 to 400 feet of alignments and 800 to 1,000 feet of stations. As part of the 2011 Design Refinements, two additional properties that meet the age criteria are now within the area of potential effect.

The two properties were inventoried and Washington State Department of Archeology and Historic Preservation concurred with FTA and Sound Transit's determination that they are not eligible for the National Register of Historic Places (see Attachment H). The 2011 Design Refinements result in no change in impacts compared to the 2005 EA.

## L. CONSTRUCTION

Construction impacts are discussed with their respective elements of the environment in the 2005 EA. No new impacts are anticipated except that the alternative parking facilities will require a greater area of construction due to the increase in the number of stalls from 630 (2005 EA) to 1,100 proposed as part of the 2011 Design Refinements. The 2011 Design Refinements do not result in changes in the type of impacts, but the scale and duration of the impacts would increase for the construction of the additional parking.

During project construction access to businesses and residences could be affected. Access closures would be coordinated in person with affected businesses and residents. If access closures are required, property access to residences and businesses would be maintained to the extent possible. If access to the property was not able to be maintained, the specific construction activity would be reviewed to determine if it could occur during non-business hours, or if the parking and users of this access (for example deliveries) could be provided at an alternative location.

The 2005 EA indicated construction activities would occur primarily between the hours of 7:00 AM and 10:00 PM, but in some cases may occur outside of these hours. Construction noise levels would be expected to comply with City noise ordinance limitations, but may occasionally exceed noise criteria during certain activities. In addition, to reduce the overall construction duration, impacts, and costs, there may be a need to perform some activities outside of these hours. If so, Sound Transit would seek a noise variance from the City of SeaTac. Truck hauling would typically occur between the hours of 8:00 AM and 8:00 PM. Truck haul routes would be approved by the City. In emergencies or situations with unique project constraints, occasional hauling may occur outside these hours.

The 2005 EA also documented that construction noise could be a disturbance to near S. 200th Street. In addition, there are hotels and commercial businesses along the South Link guideway primarily along 28th Avenue S., that may also experience high noise levels during project construction. While this section of guideway is elevated and the intensity of construction would be intermittent, activities such as demolition and excavation would produce noise. Trucks and other construction equipment listed above would also be operating in close proximity. However, the most intensive techniques, such as pile driving, would be avoided, as practical, when in close proximity to sensitive land uses, and auguring techniques or other methods would be used to minimize noise where possible. Major vibration-producing equipment includes soil compactors, bulldozers, excavation equipment, hoerams, jack hammers, and haul trucks. Construction activities may cause high levels of vibration due to demolition and soil compacting. Structural damage to buildings is not anticipated. In some locations, primarily along 28th Avenue S., vibrations may be perceptible to occupants, but would not be of a magnitude that would disrupt typical business activities in the immediate vicinity.

The 2005 EA also indicated that there could be visual impacts related to construction activity and at staging sites.

## M. CUMULATIVE EFFECTS

Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR S1508.7) The Cumulative Effects section of the 2005 EA was reviewed to determine whether changes have occurred since 2005 that warrant noting in this 2011 SEPA Addendum.

The Cumulative effects section in the 2005 EA is extensive, covering individual elements of the environment reviewed in the EA. The 2005 Cumulative effects discussion was found to be generally valid for 2011 conditions. The following paragraphs provide a discussion of some possible changes to Cumulative impacts based on refinements in design and changes in the study corridor since 2005. Cumulative effects not discussed below discussed were found to not have changed substantially since 2005

One change of note since 2005 is reduced growth in Vehicle Miles Travelled (VMT). The transportation portion of the 2005 Cumulative Impacts section notes that "Historically, the vehicle miles travelled by drivers has continually increased in the Puget Sound region." The 2011 transportation analysis found actual 2011 traffic volumes lower than forecast in the 2005 EA. Research for the 2011 design refinement showed approximately a 5 percent drop in VMT from 2004 to 2008, then a slight increase to 2010. Since population has not declined over this period, this change may indicate that the rate of growth in VMT may be declining and the cumulative effect of Link Light Rail in combination with other transit improvements such as Rapid Ride on Highway 99 may contribute to a trend of reducing growth in VMT in the Puget Sound region.

One Cumulative Effect of population and job growth that has not changed since 2005 is that intersections along International Blvd are operating near or at capacity, and without action to provide transportation alternatives to cars, delays and queues will become worse especially as growth occurs as anticipated in the City of SeaTac and Port of Seattle Comprehensive Plan Vision for 2030. Future development in the area is assumed to comply with the City of SeaTac Comprehensive Plan and SeaTac Airport Plans. In general, the effect of the South Link project will be to facilitate achieving land use goals and plans of the City of SeaTac and the Port of Seattle by increasing regional mobility and improving access to agencies, business and residences near the South Link corridor. The 2005 EA cumulative effects section contains the statement in the Land Use and Economics section that "in general, most reasonably foreseeable transportation and land development projects in the Airport Link project area would be consistent with regional policies to concentrate and intensify urban development." Area wide cumulative effects of development on traffic levels are generally included in the growth rates for background traffic used in the analysis.

The 2011 design refinement included design coordination with key projects which have undergone additional planning since 2005. These projects include 28th Avenue South improvements, WSDOT SR 509 Extension, the South Access Roadway to the airport and transportation improvements programmed in the City of SeaTac Comprehensive Plan. The project is designed to be physically consistent with these projects. The cumulative effect of federal, state and local transportation projects will generally be to increase access, improve mobility and reduce congestion in the area served by the South Link light rail.

Future extension of the Link Light rail southward is a cumulative effect that was specifically evaluated in the 2011 SEPA Addendum to determine effect on parking demand at the South 200th Station. It was found that parking demand at the South 200th station would be reduced when South Link is extended.

Known projects that might undergo construction at the same time as South Link construction are noted to identify conditions that could create cumulative effects such as those discussed in the 2005 EA. Projects that might be constructed on a time schedule overlapping station or guideway construction include Transit Oriented Development of land near the Station, hotel or other projects along the guideway corridor, development of the office area shown in the SeaTac Comprehensive Plan south west of the station, redevelopment of parcels along Highway 99, SR 509 Extension, South Access Roadway and transportation improvements programmed in the City of SeaTac Comprehensive Plan. Timing of some of these projects is not certain. Cumulative impacts from potential "combined project" conditions are reviewed generally in the Cumulative Impacts section of the 2005 EA.

# Conclusion

Changes in impacts have been identified from the 2011 Design Refinements when compared to the 2005 EA. All of the impacts are of similar magnitude to the impacts identified in the 2005 EA and none would result in substantially different conclusions with regard to the significance of the impacts. The principal change is the increase in the number of parking spaces provided at the South 200th Street Station. The project closely follows the original corridor and design changes result in a project with improved operational characteristics without impacts after mitigation. Impacts from noise and vibration would be slightly greater but these impacts will be mitigated. The 2011 Design Refinements would not substantially change the analysis of significant impacts evaluated in the 2005 EA and no new probable significant environmental impacts would result.

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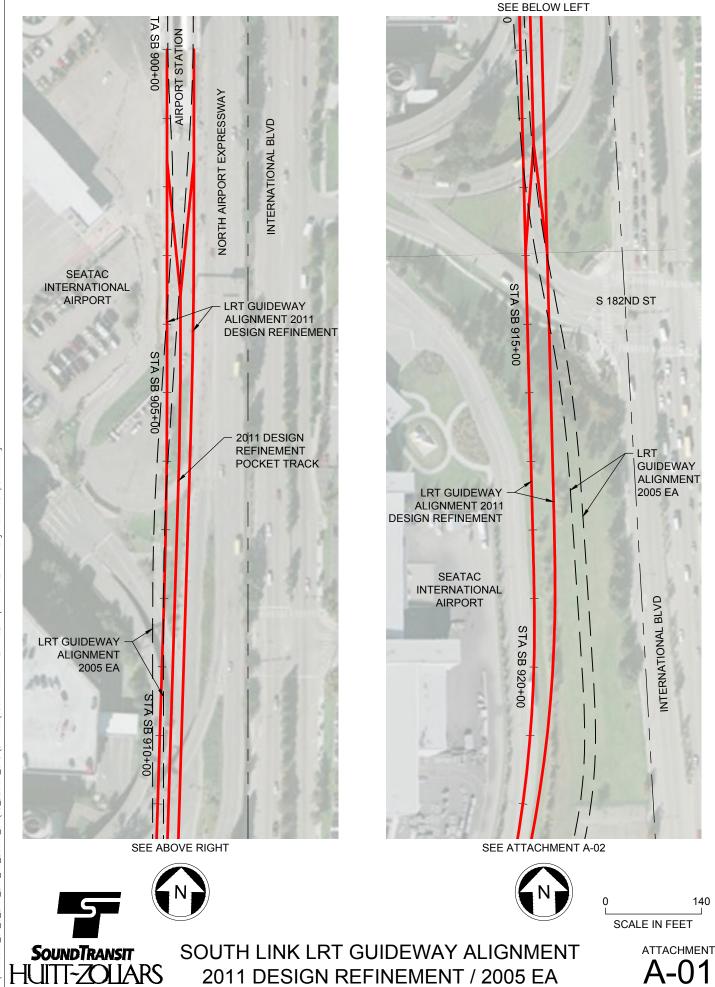
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## ATTACHMENT A: GUIDEWAY ALIGNMENT REFINEMENT

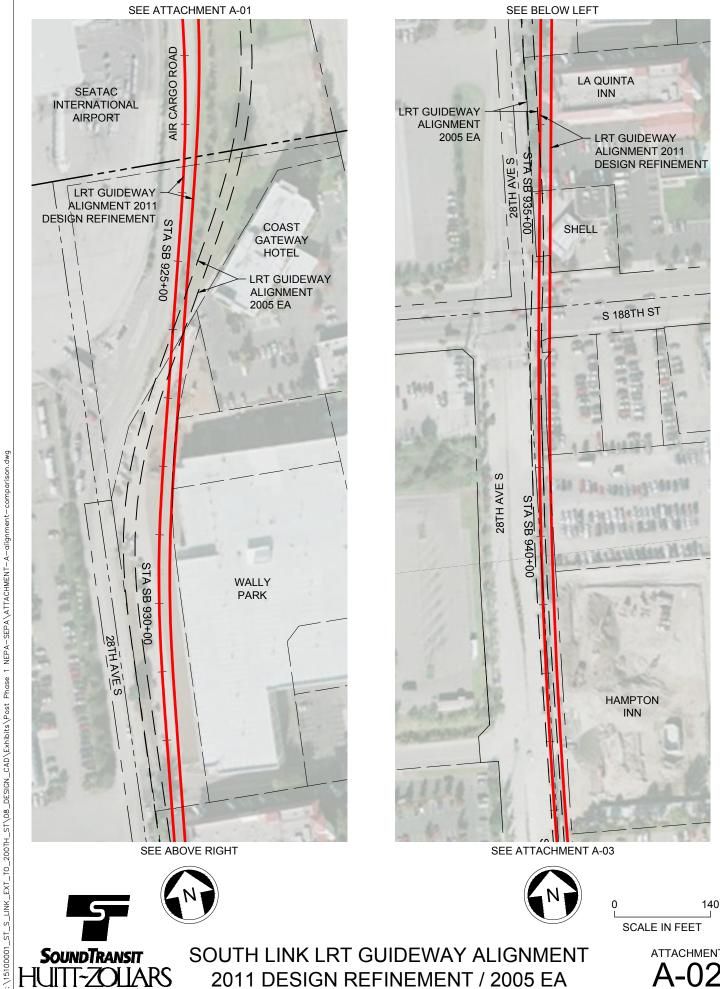
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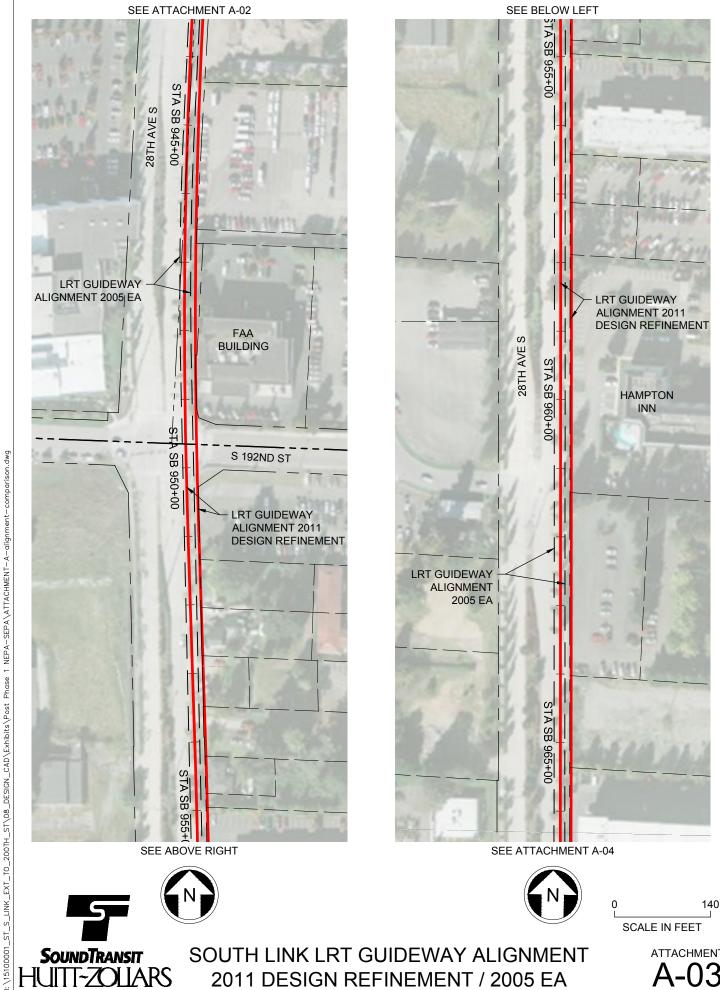
2011 DESIGN REFINEMENT / 2005 EA



**SOUNDTRANSIT**HUITT-ZOLLARS

SOUTH LINK LRT GUIDEWAY ALIGNMENT 2011 DESIGN REFINEMENT / 2005 EA

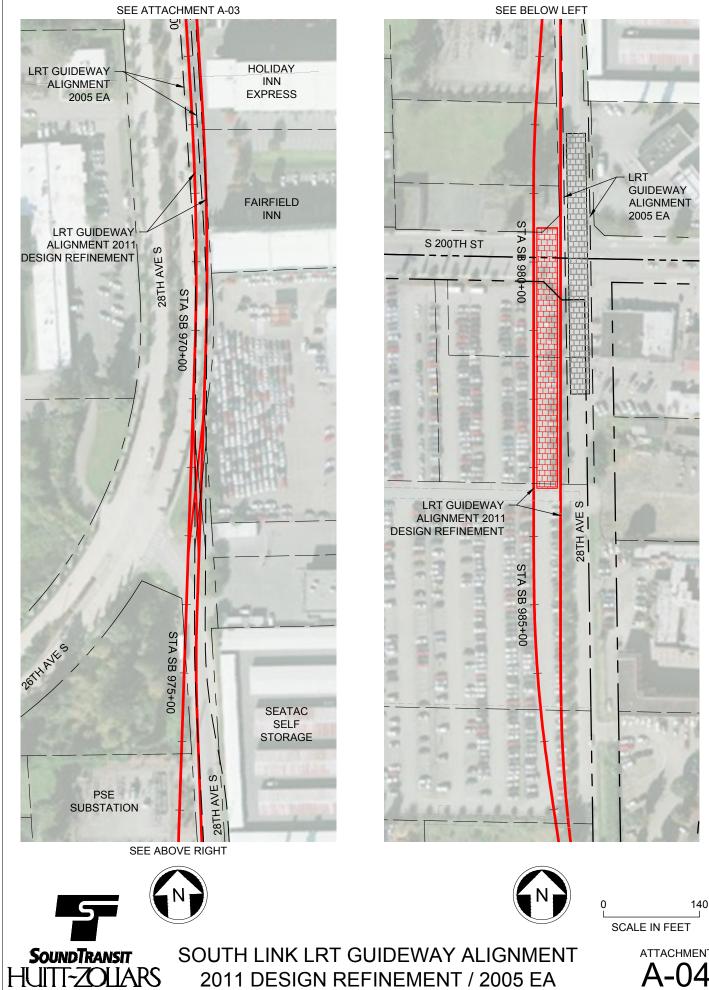
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2011 DESIGN REFINEMENT / 2005 EA

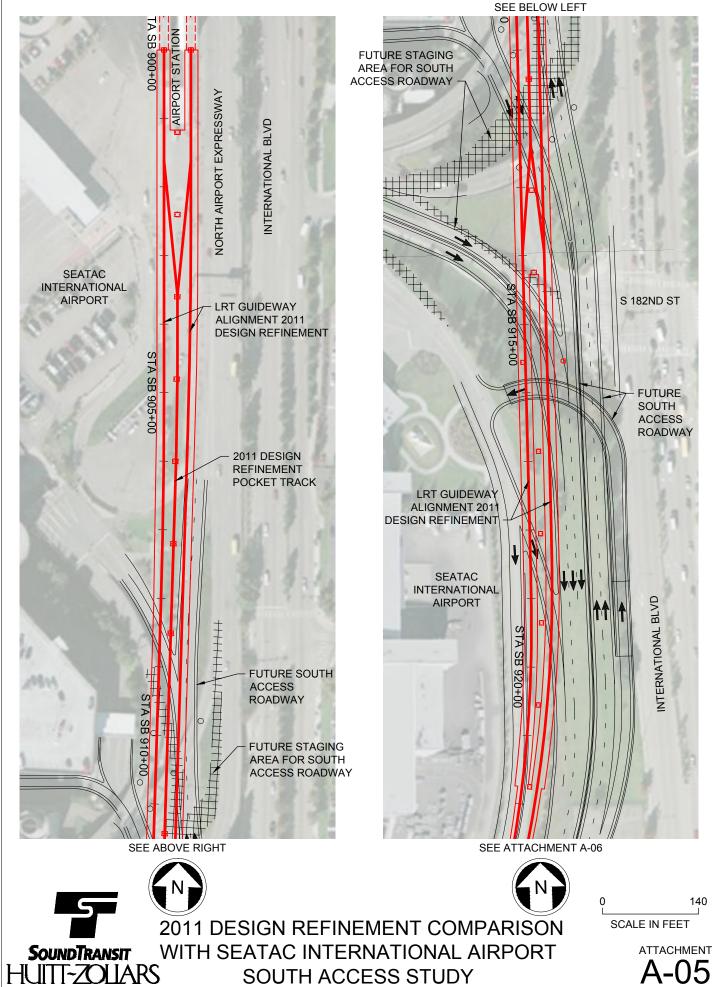
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2011 DESIGN REFINEMENT / 2005 EA

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2011 DESIGN REFINEMENT COMPARISON WITH SEATAC INTERNATIONAL AIRPORT SOUTH ACCESS STUDY



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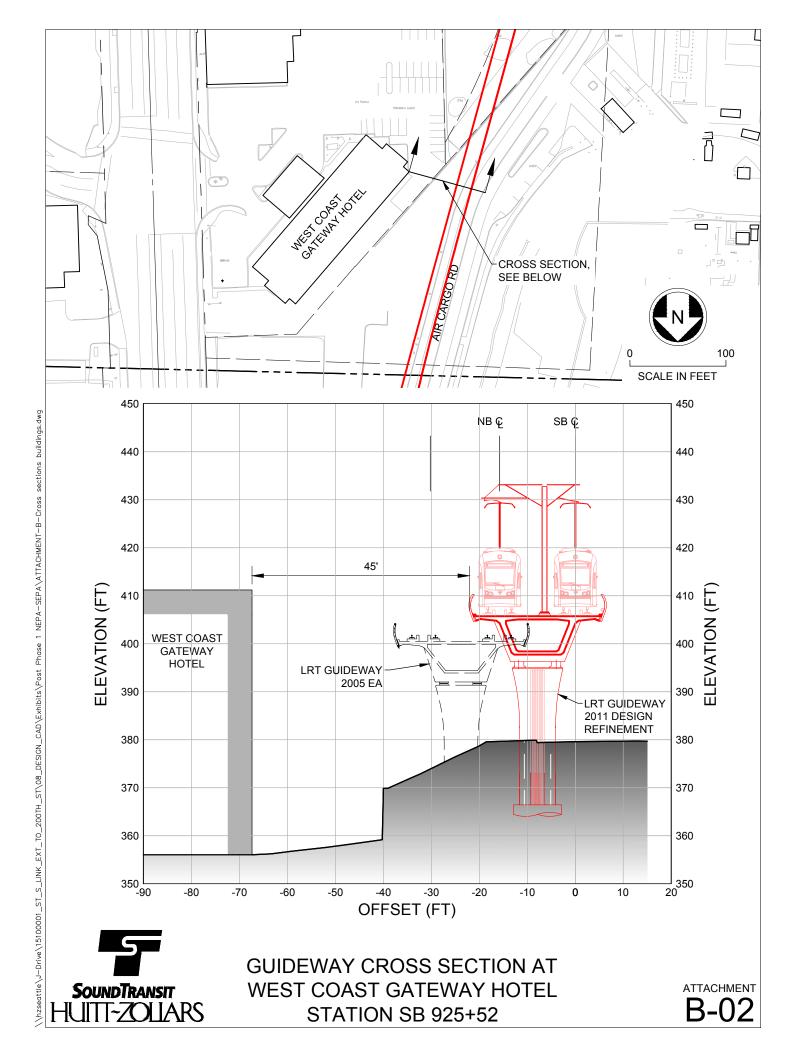
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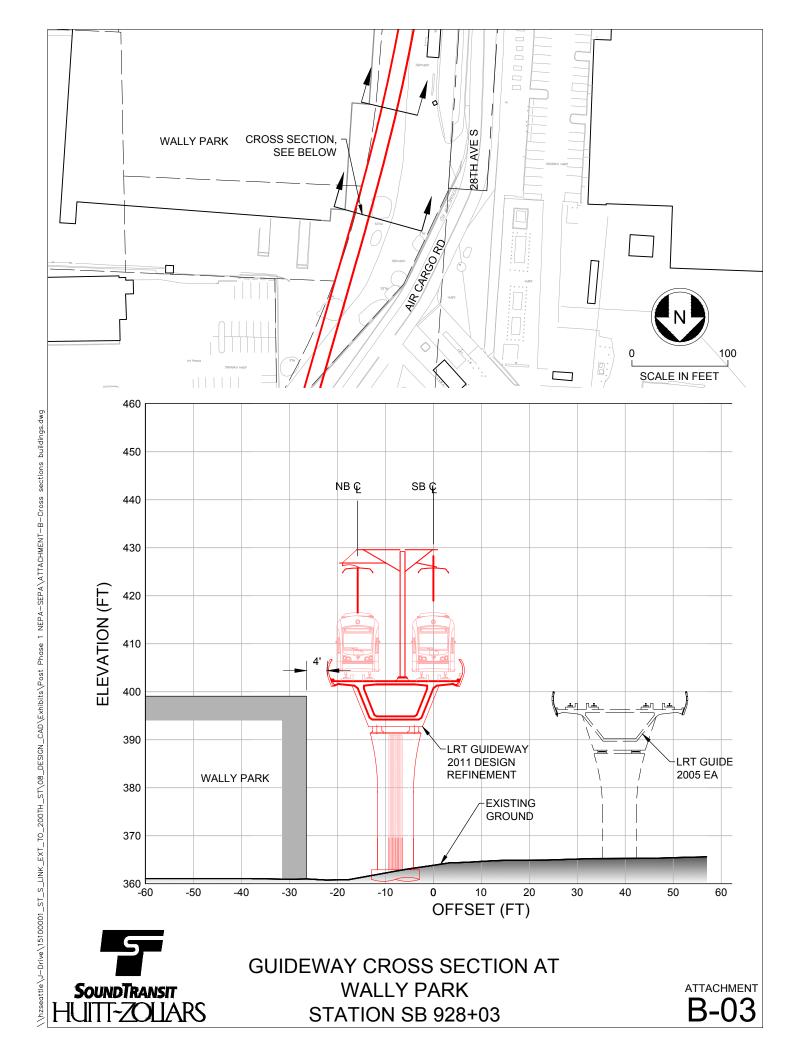
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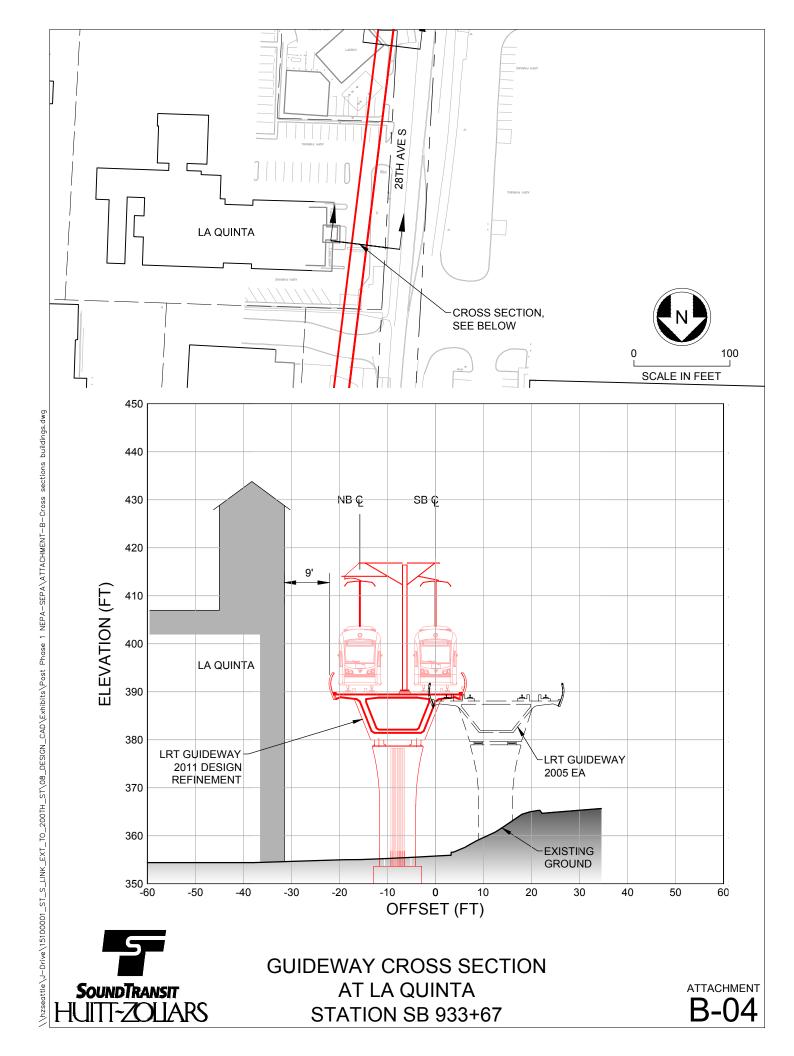
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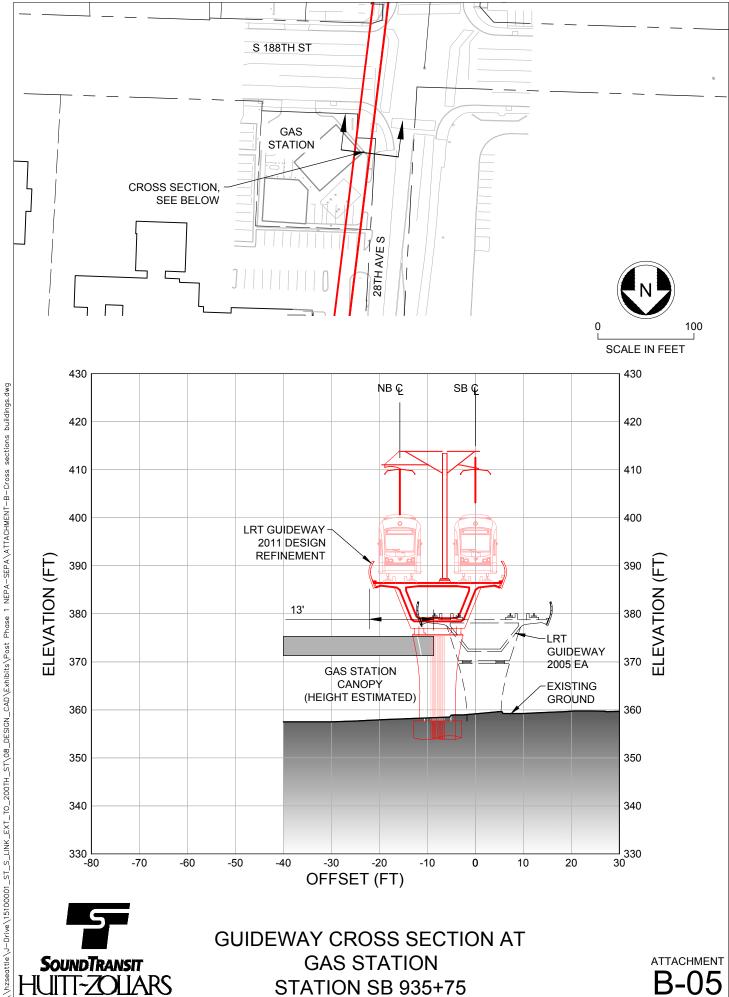
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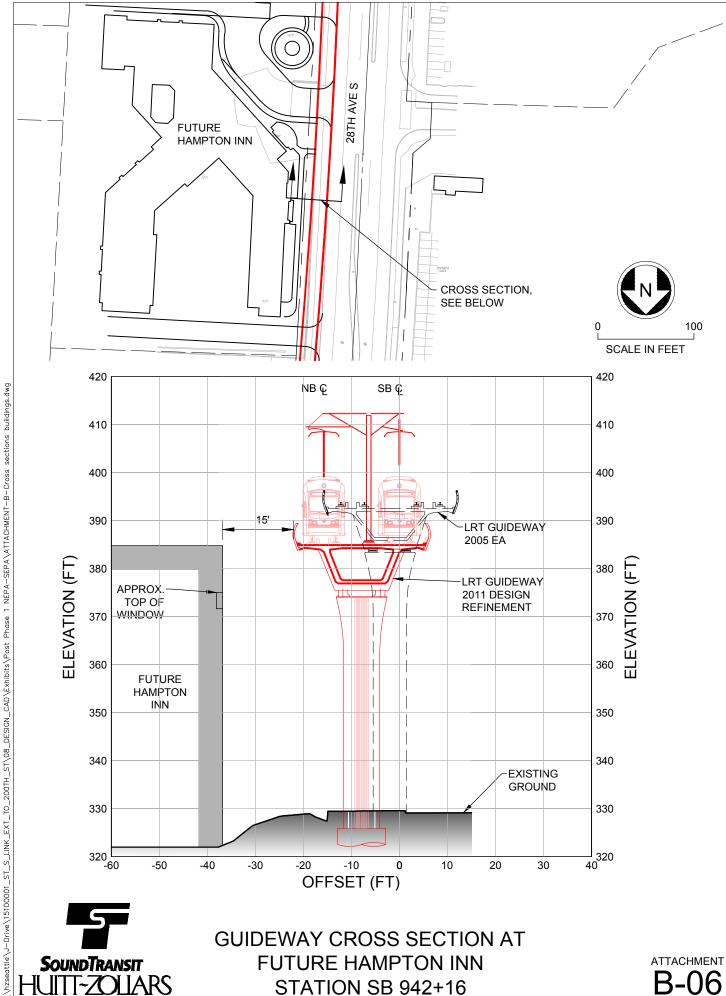
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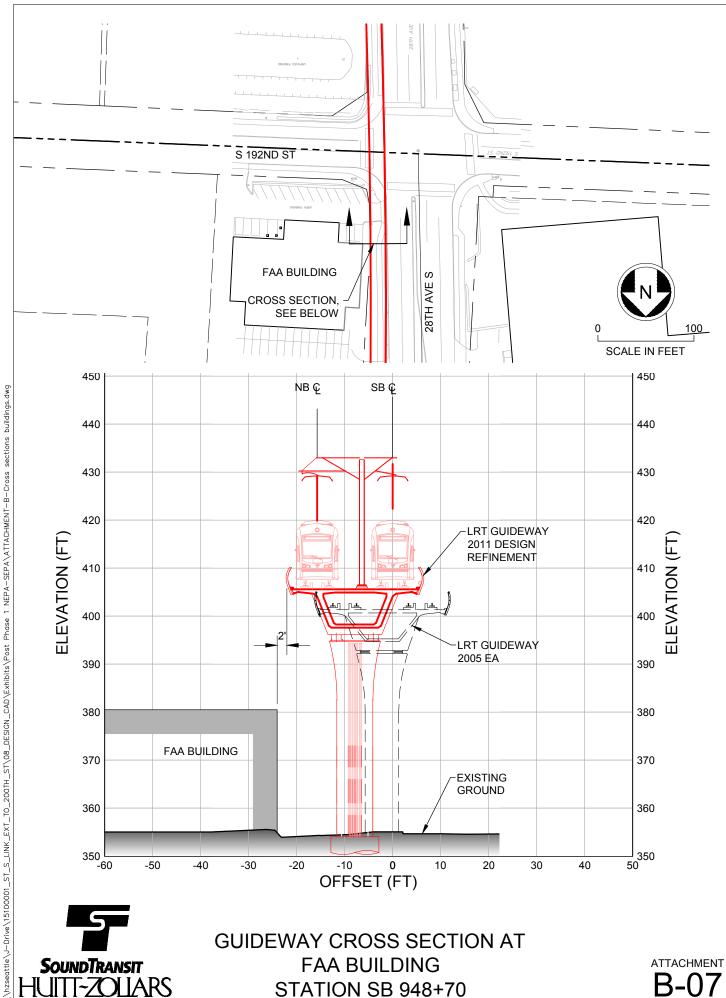






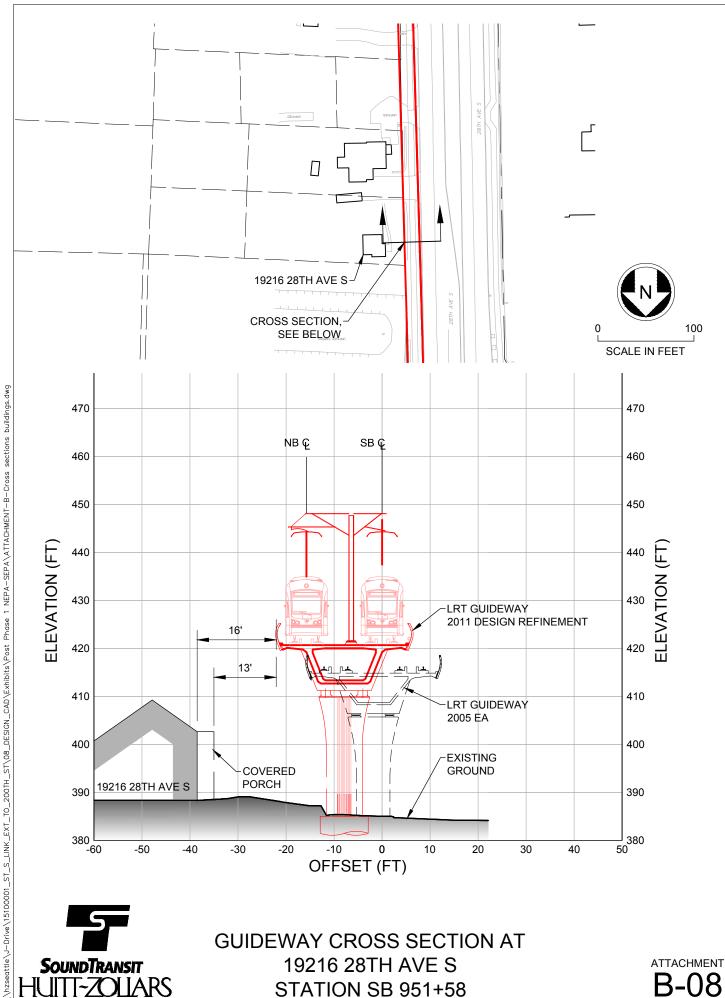


**GUIDEWAY CROSS SECTION AT FUTURE HAMPTON INN STATION SB 942+16** 



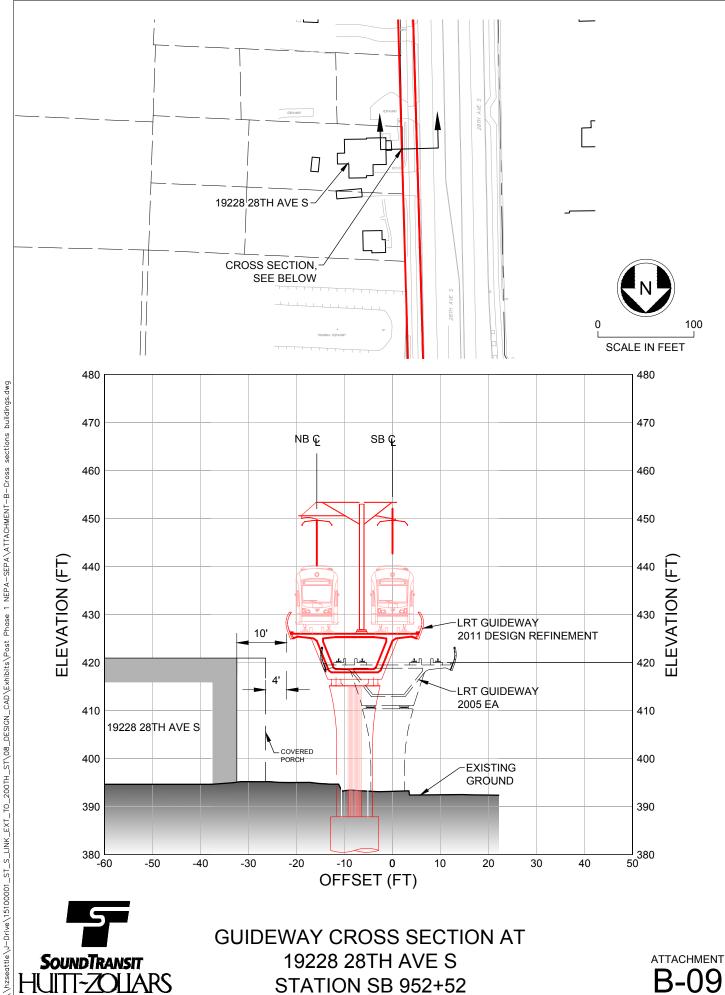


**GUIDEWAY CROSS SECTION AT FAA BUILDING STATION SB 948+70** 

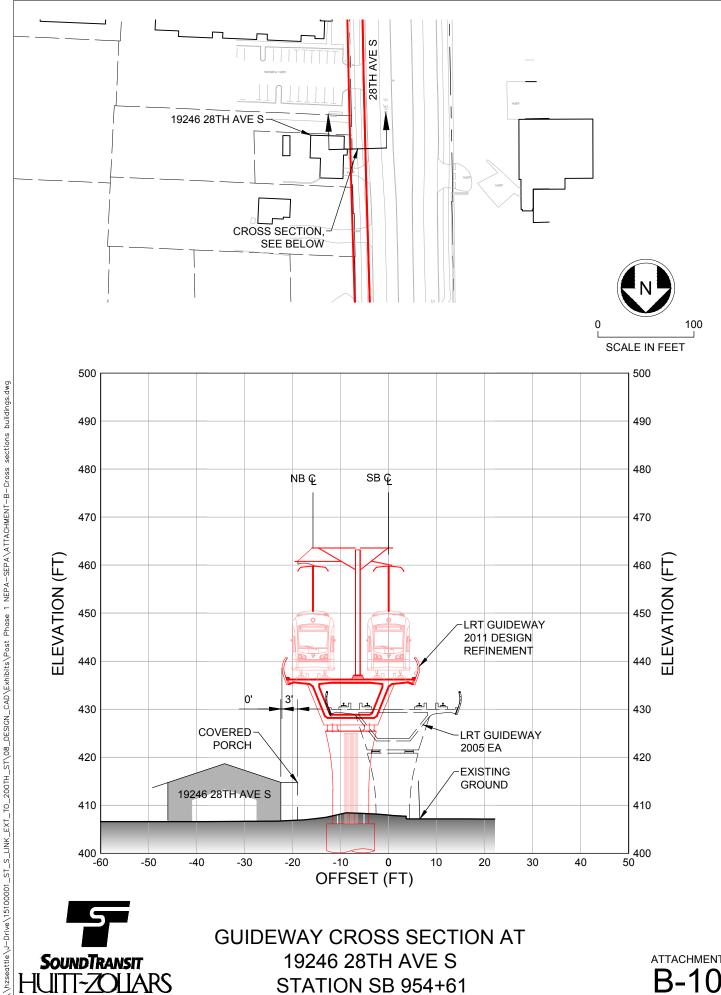




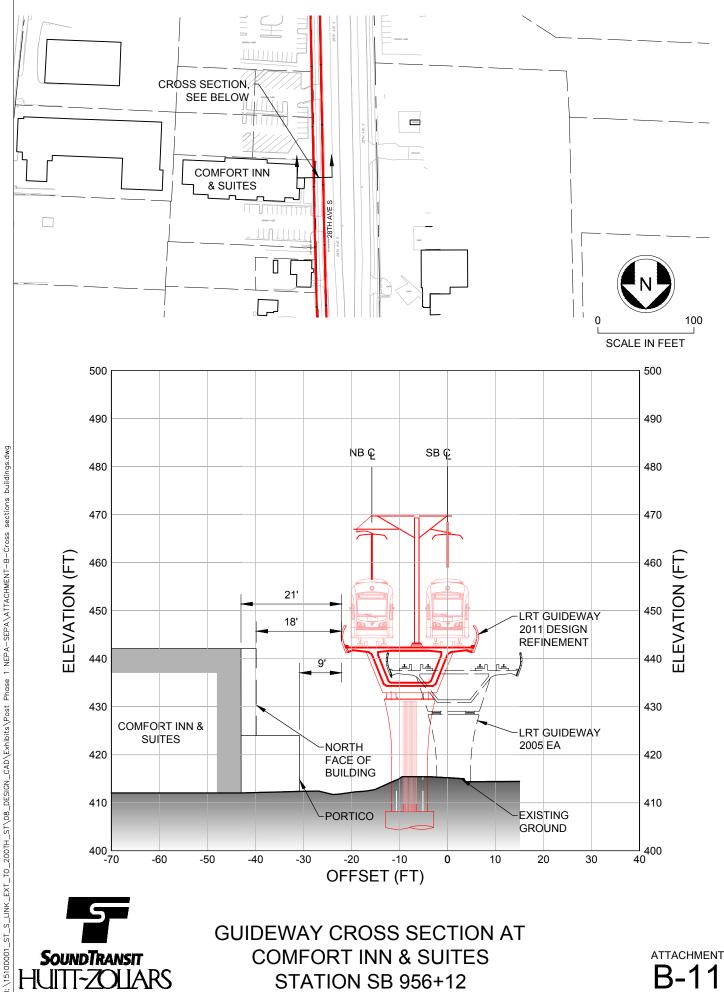
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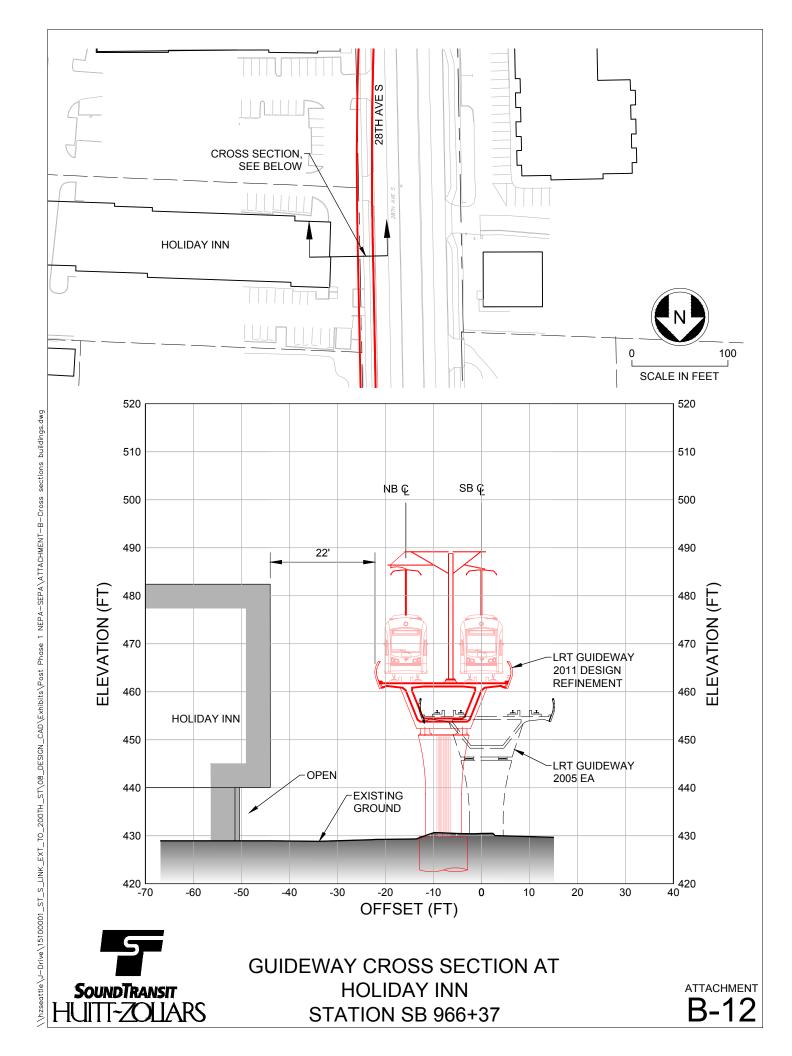
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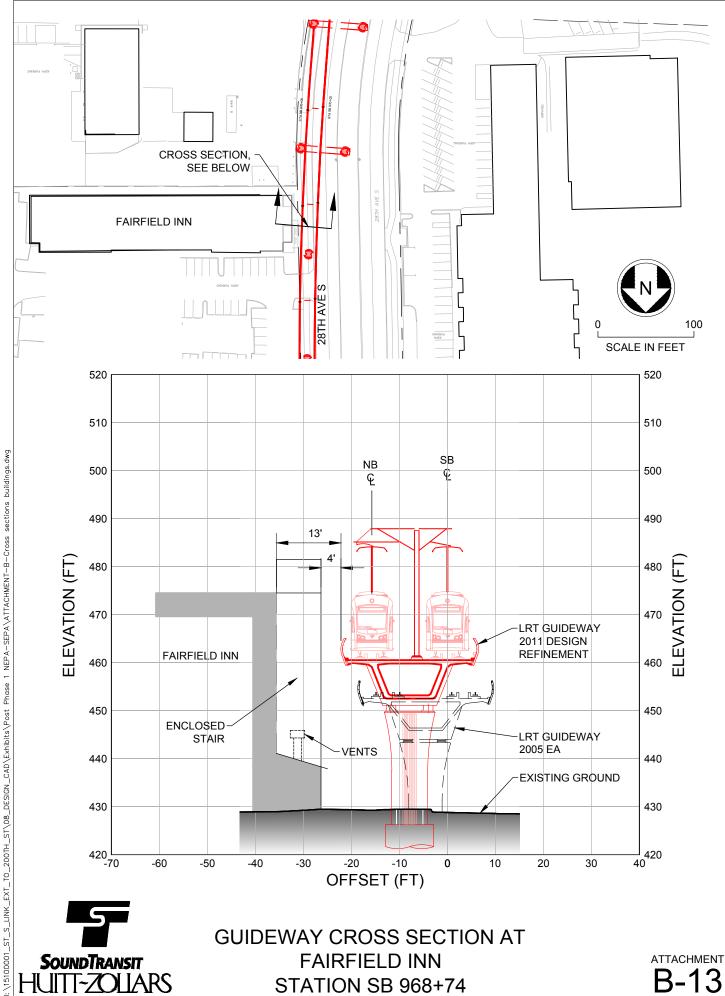


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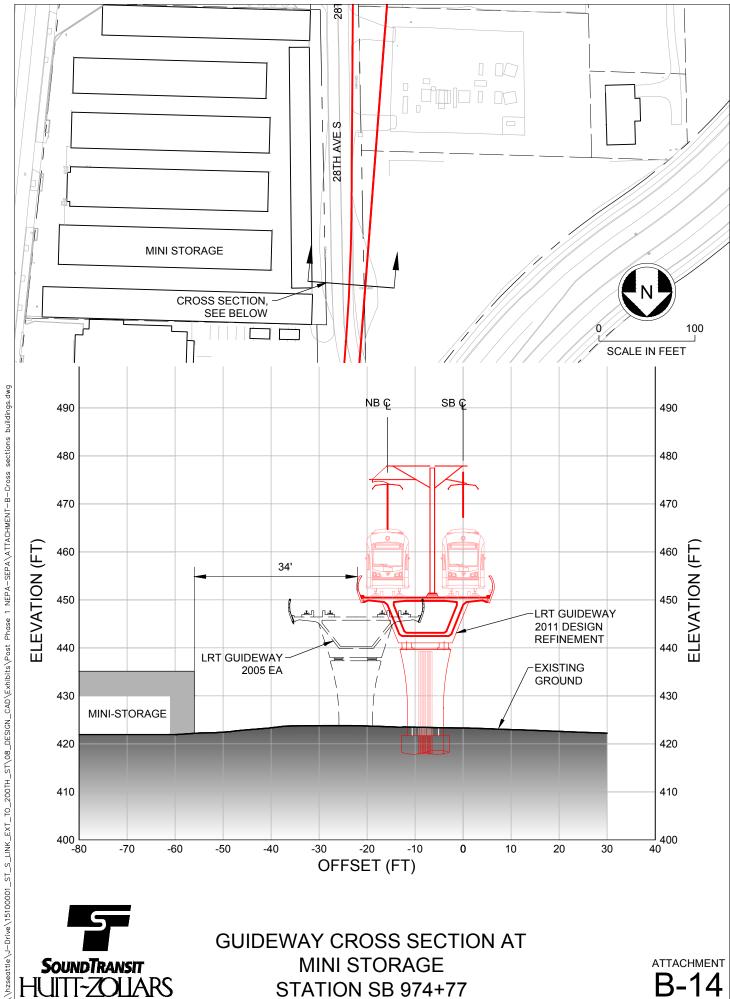
**STATION SB 956+12** 







**GUIDEWAY CROSS SECTION AT FAIRFIELD INN STATION SB 968+74** 

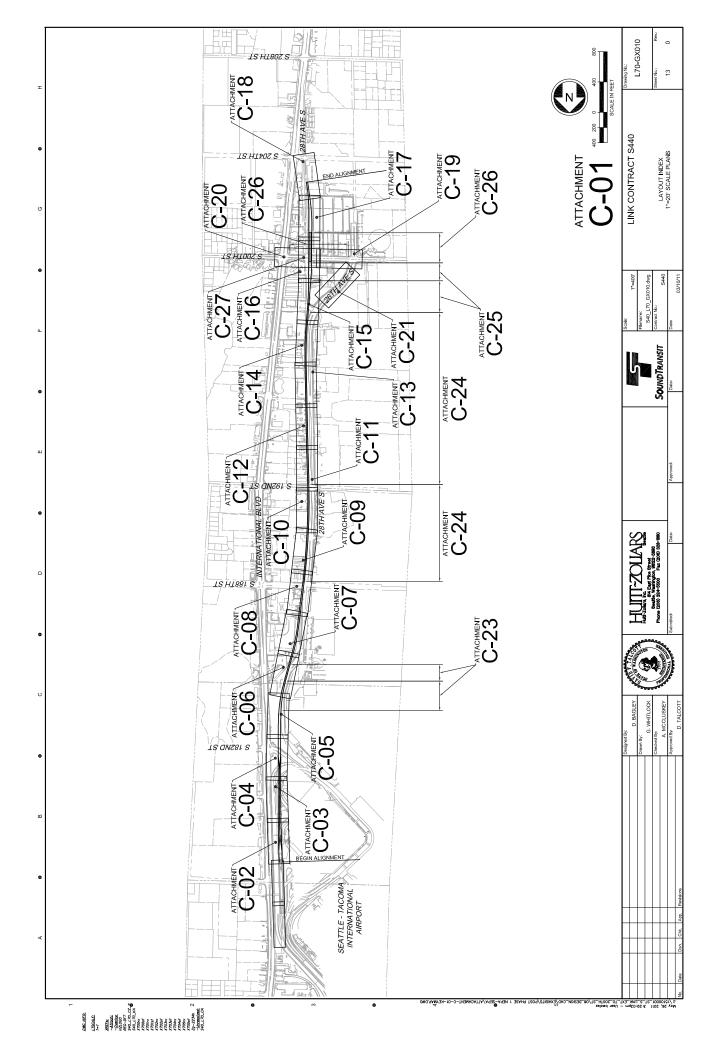


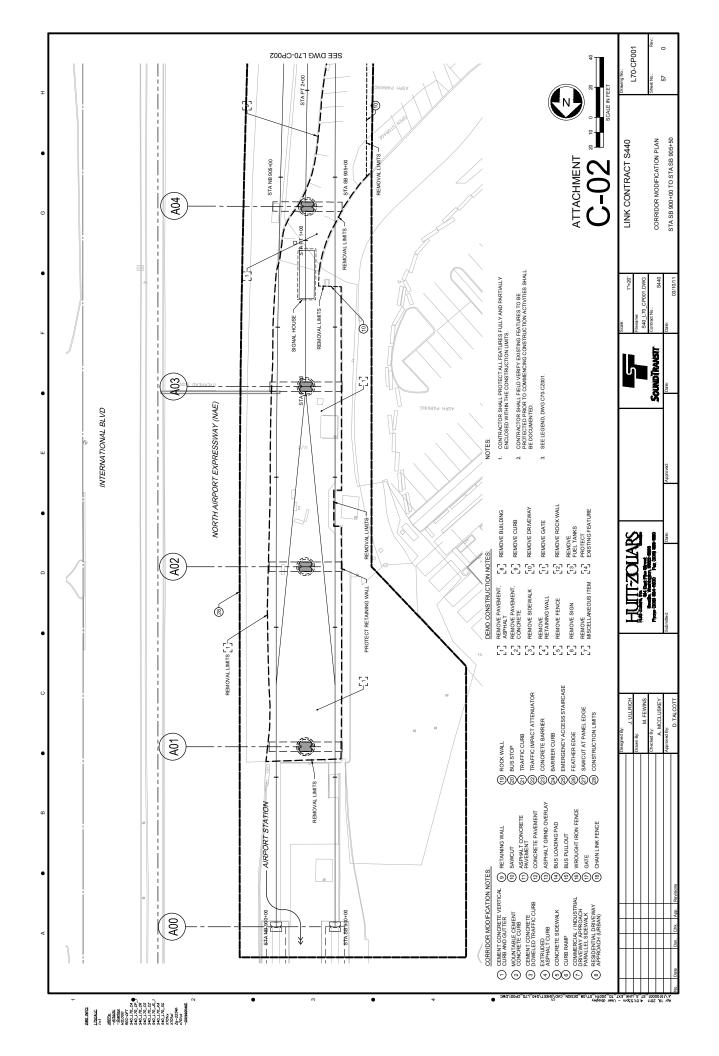
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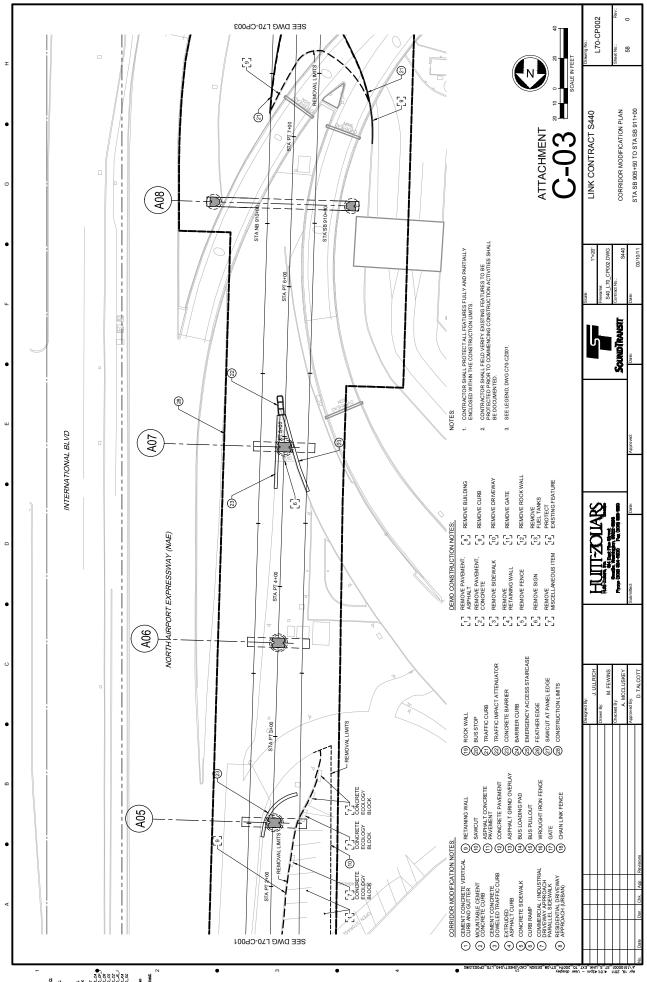
## ATTACHMENT C: STREET MODIFICATION PLANS & SECTIONS

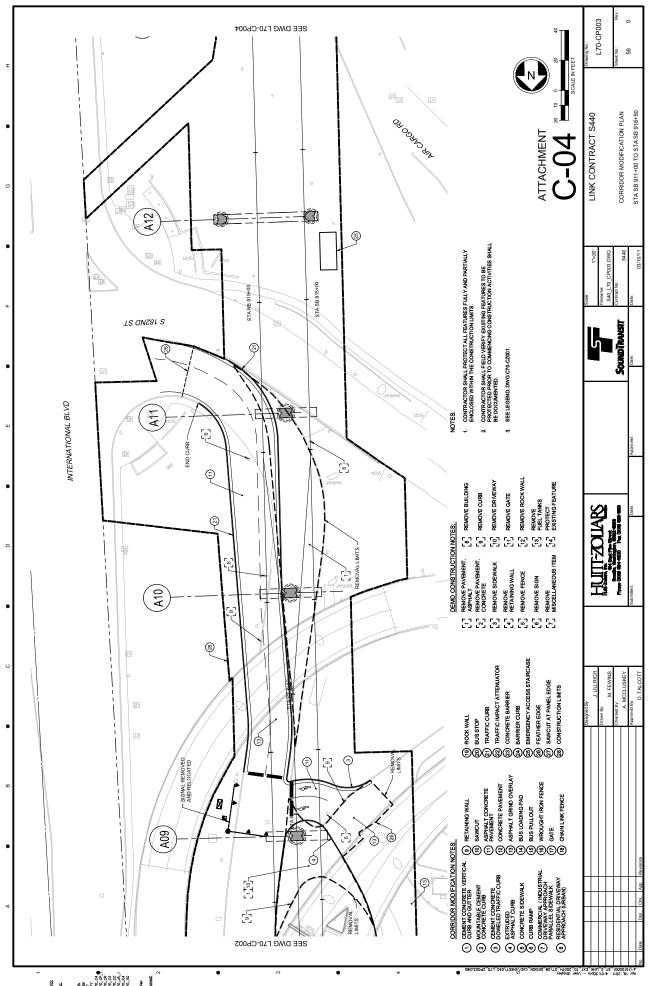
South Link SEPA Addendum South Link SEPA Addendum

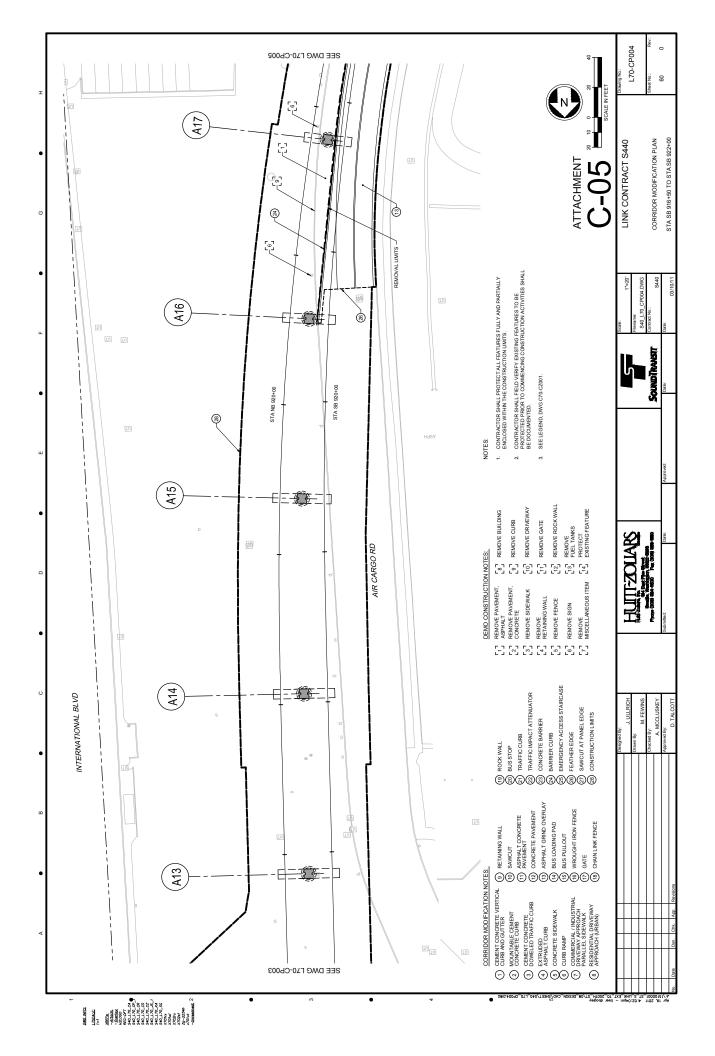
Sound Transit
South Link SEPA Addendum July 2011

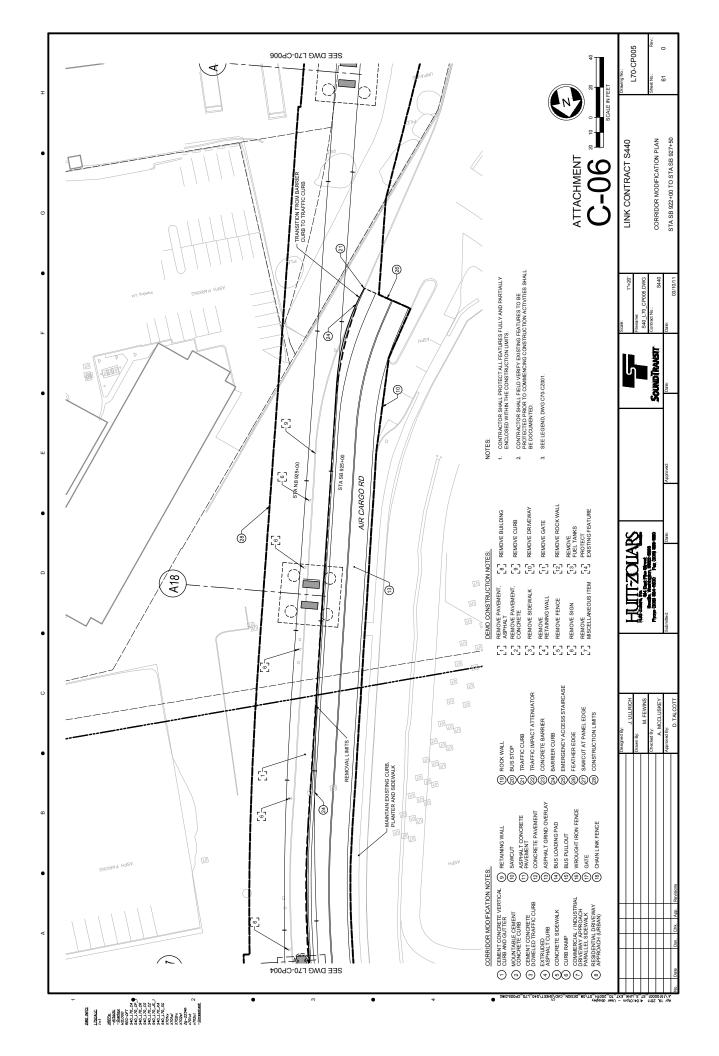


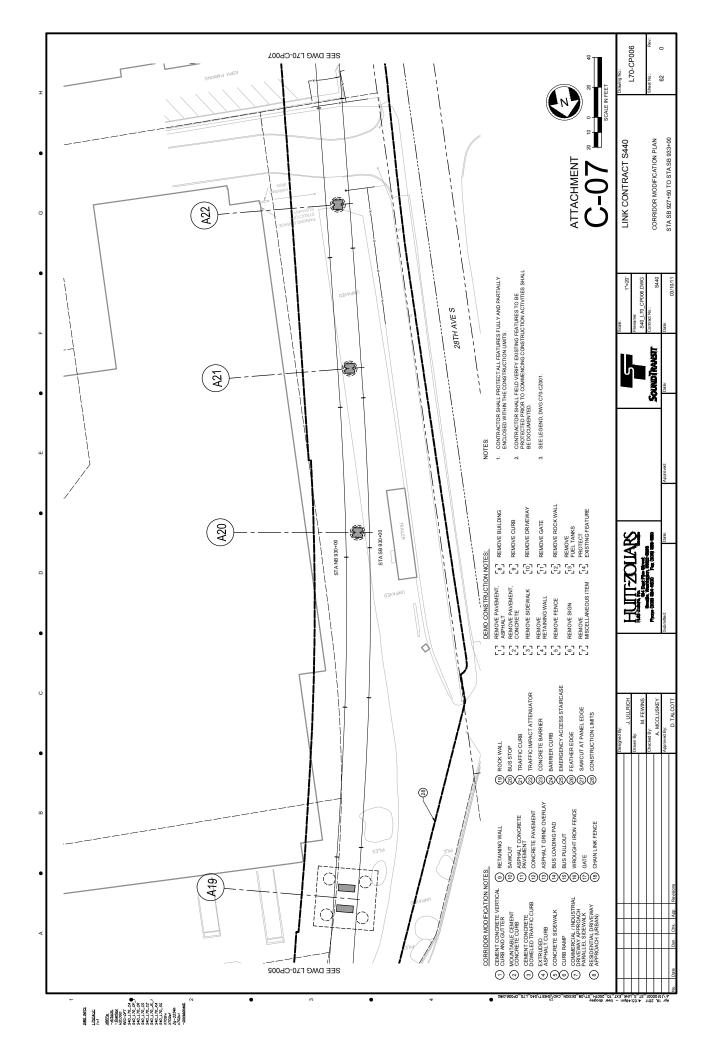


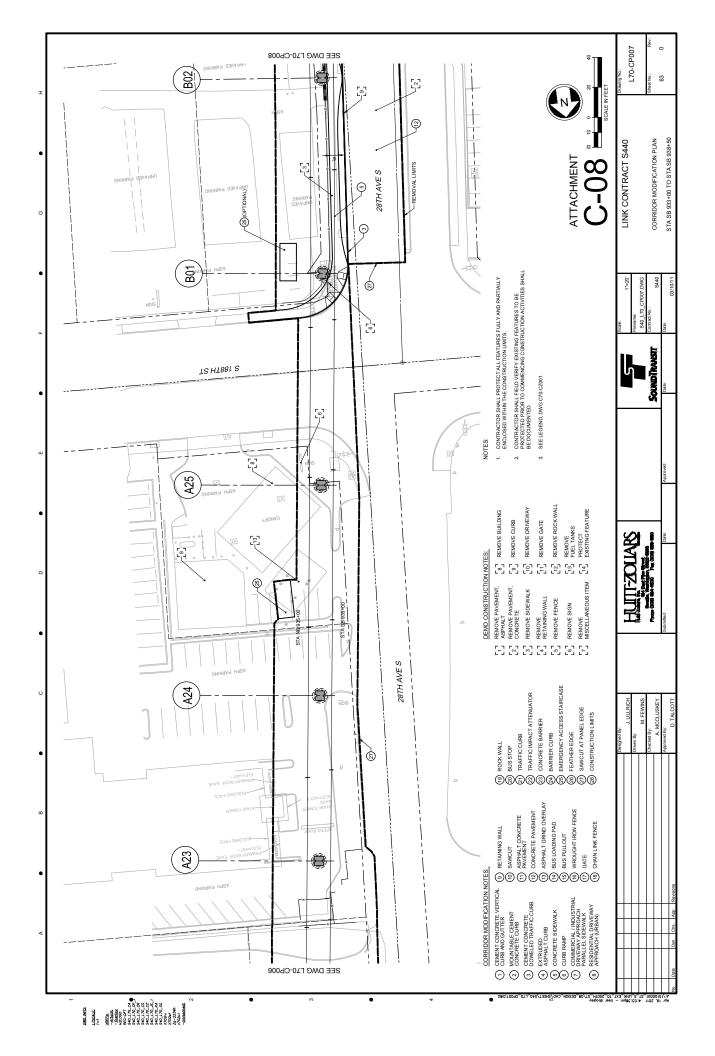


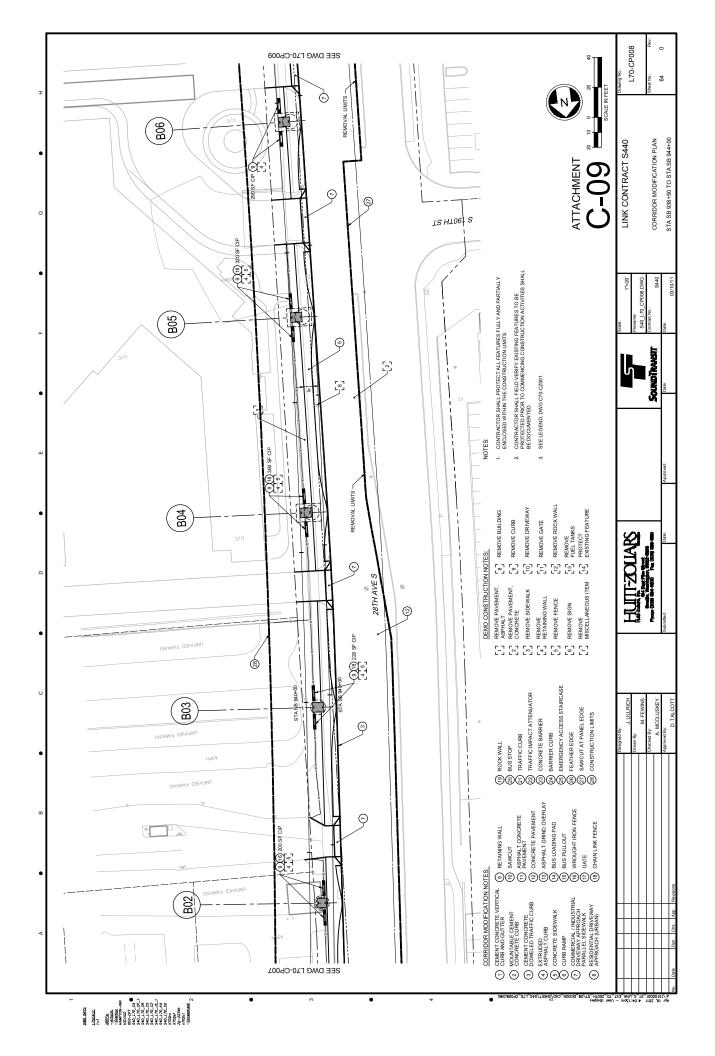


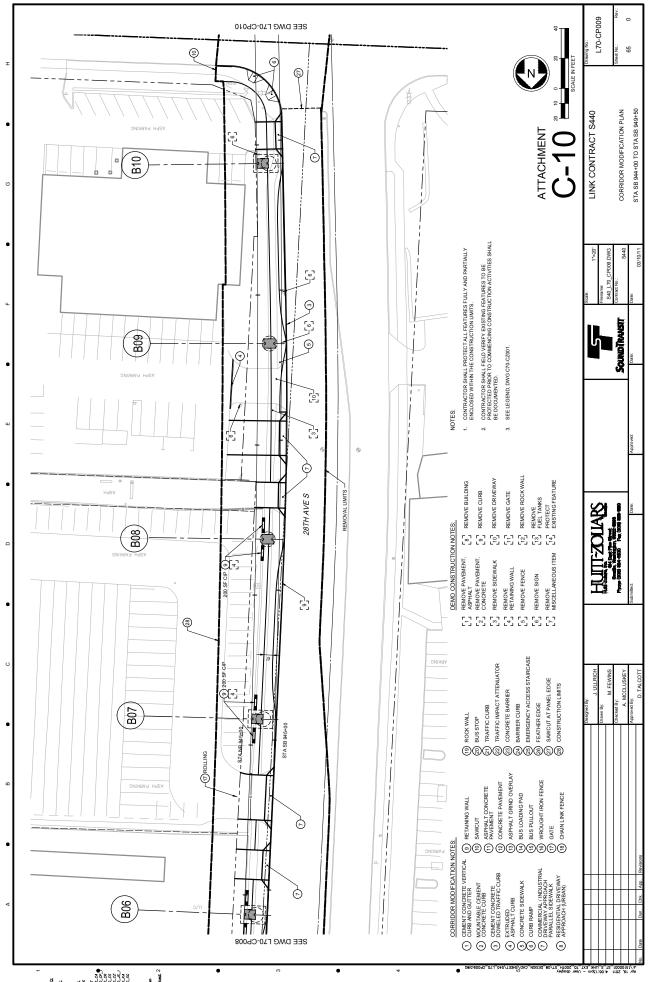


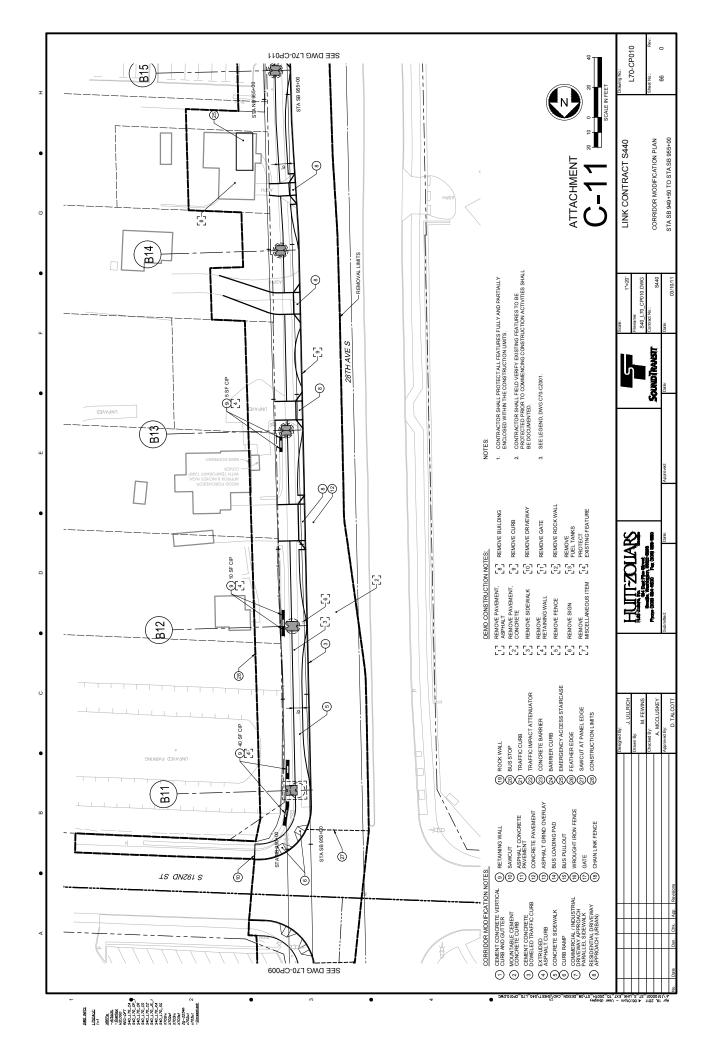


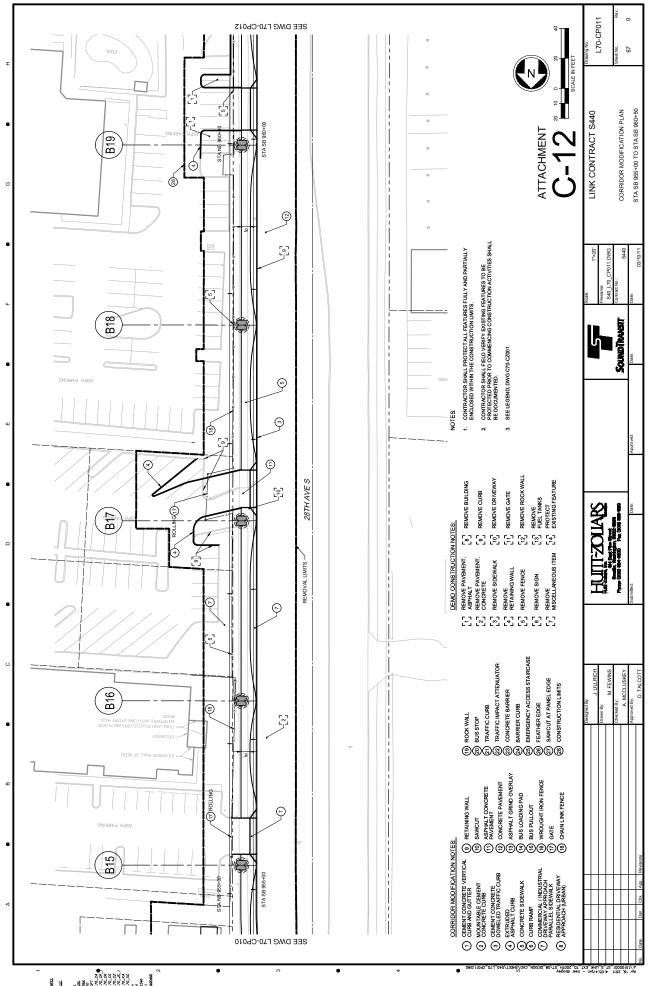


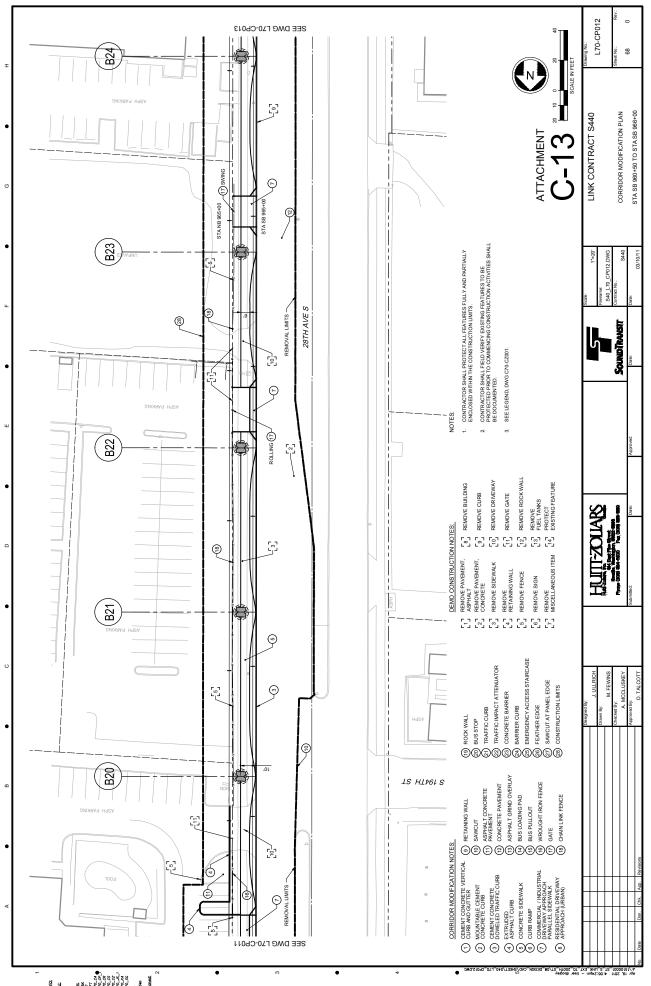








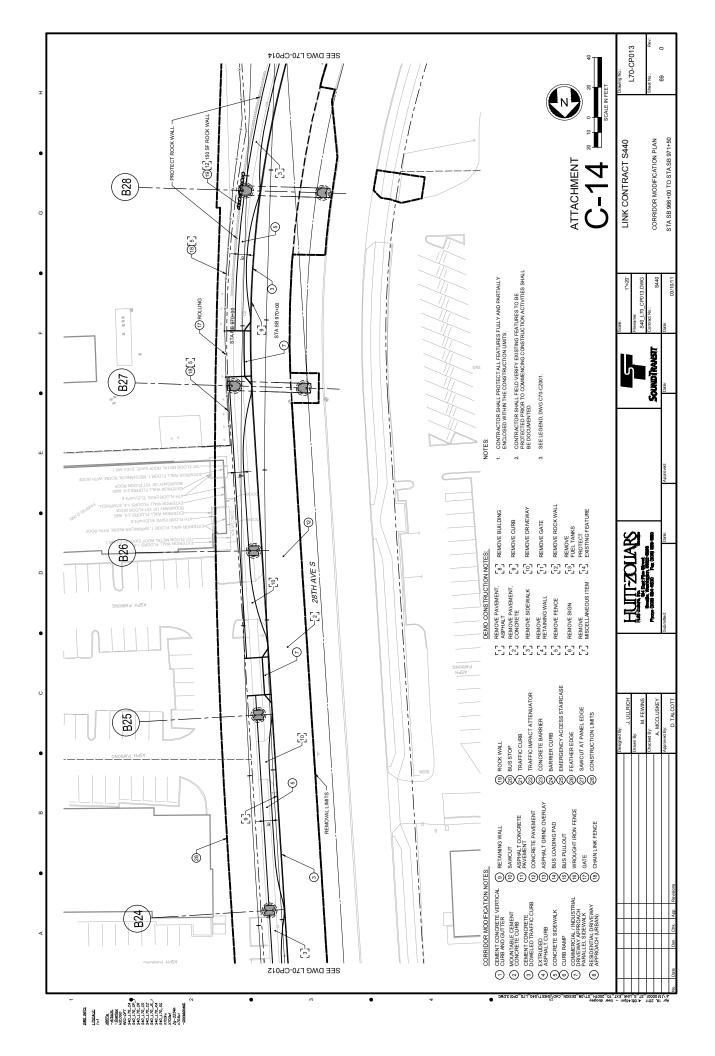


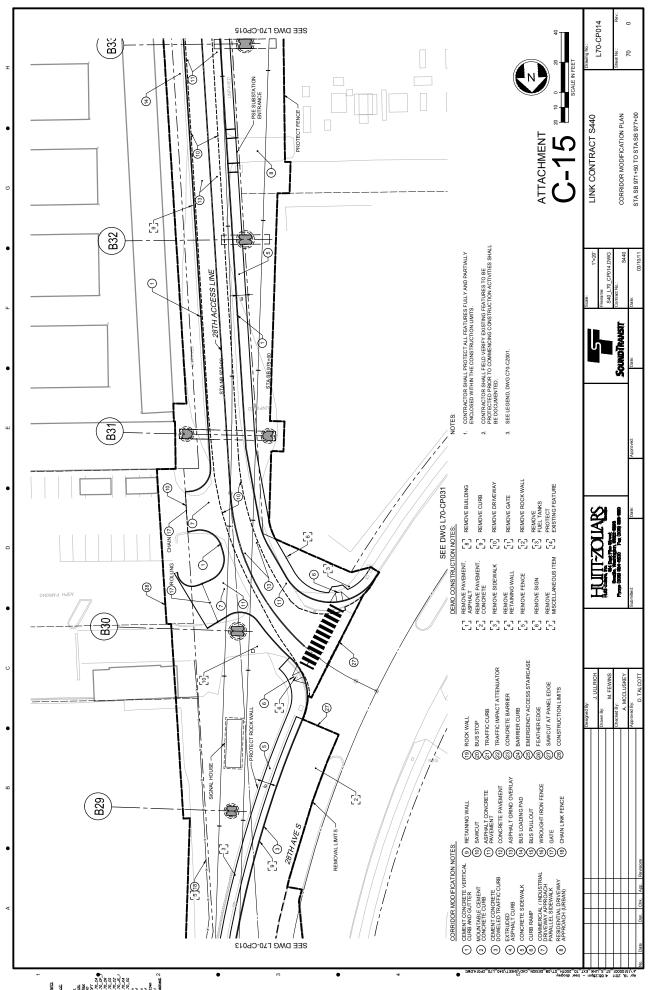


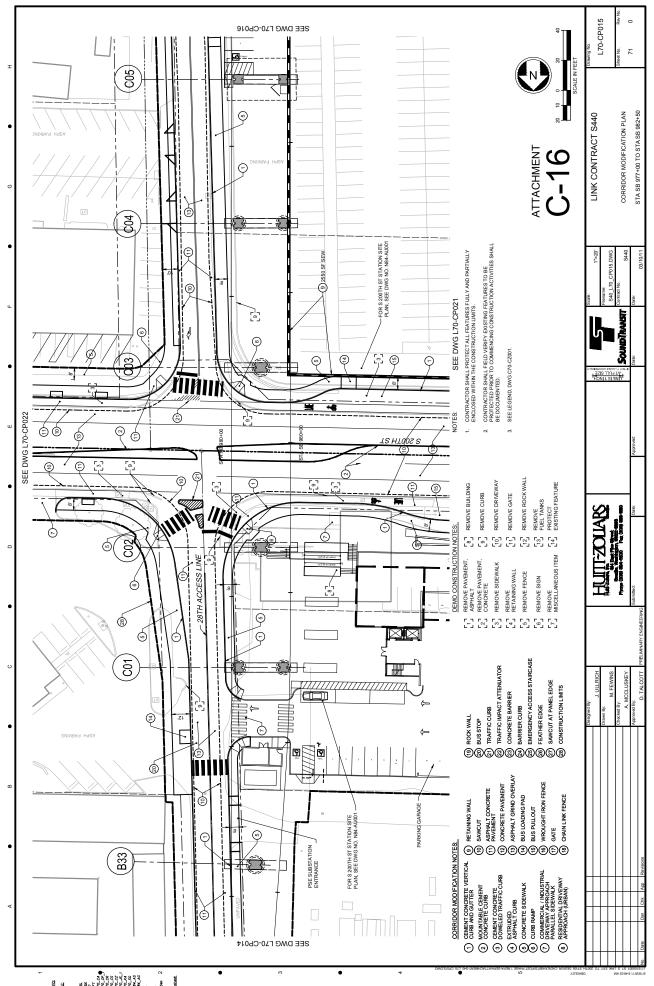
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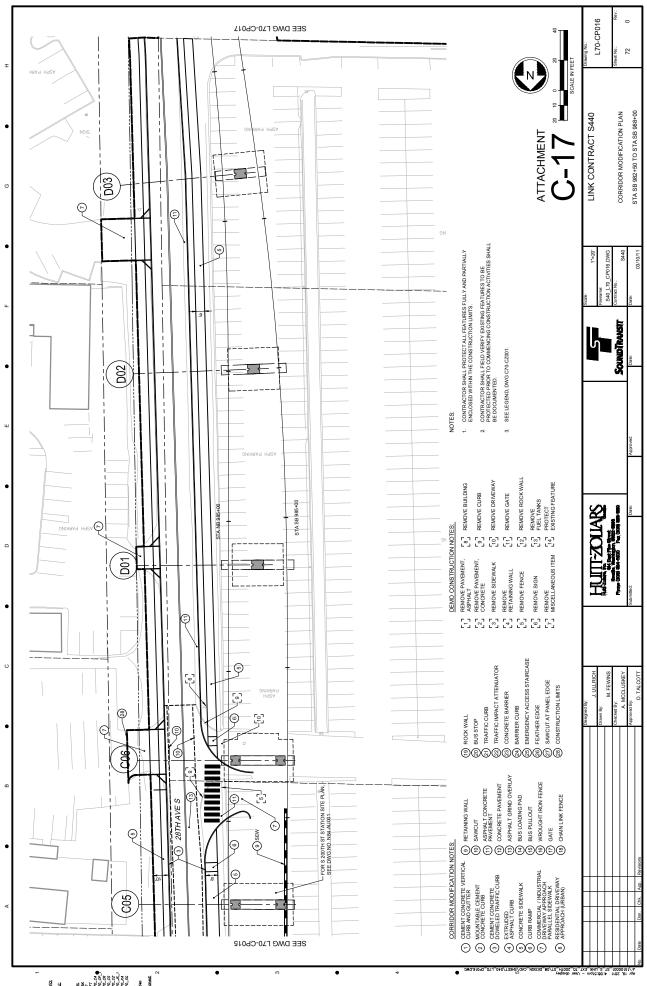
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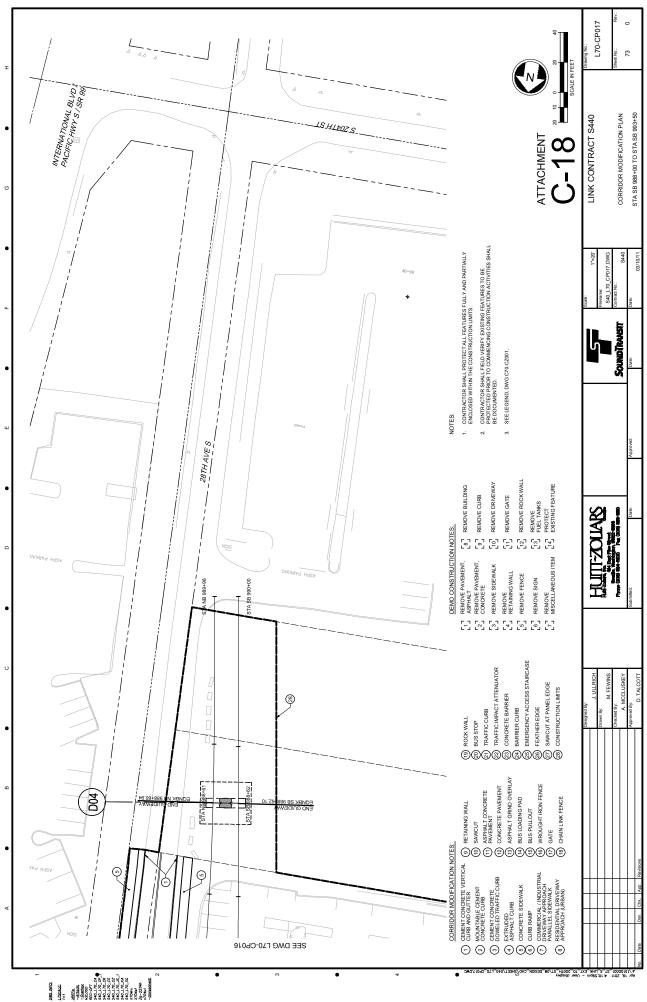
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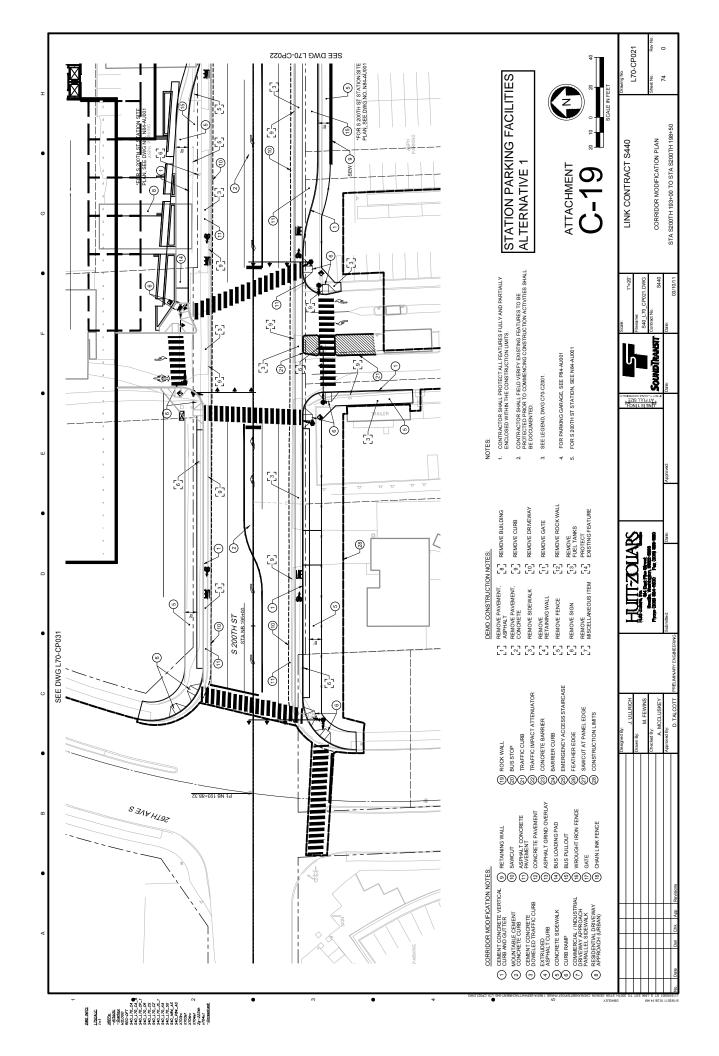


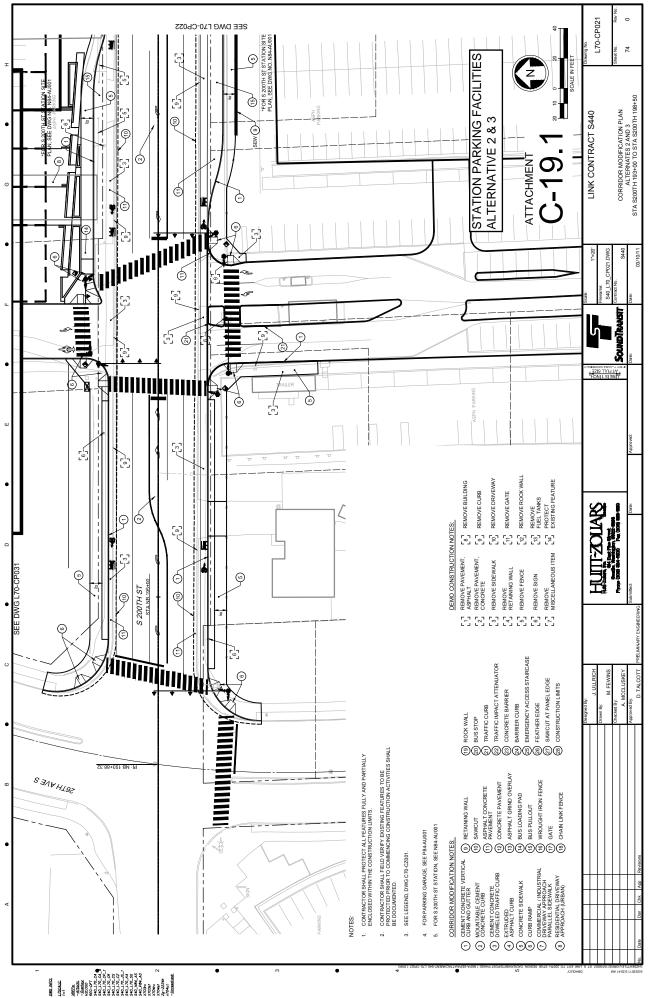


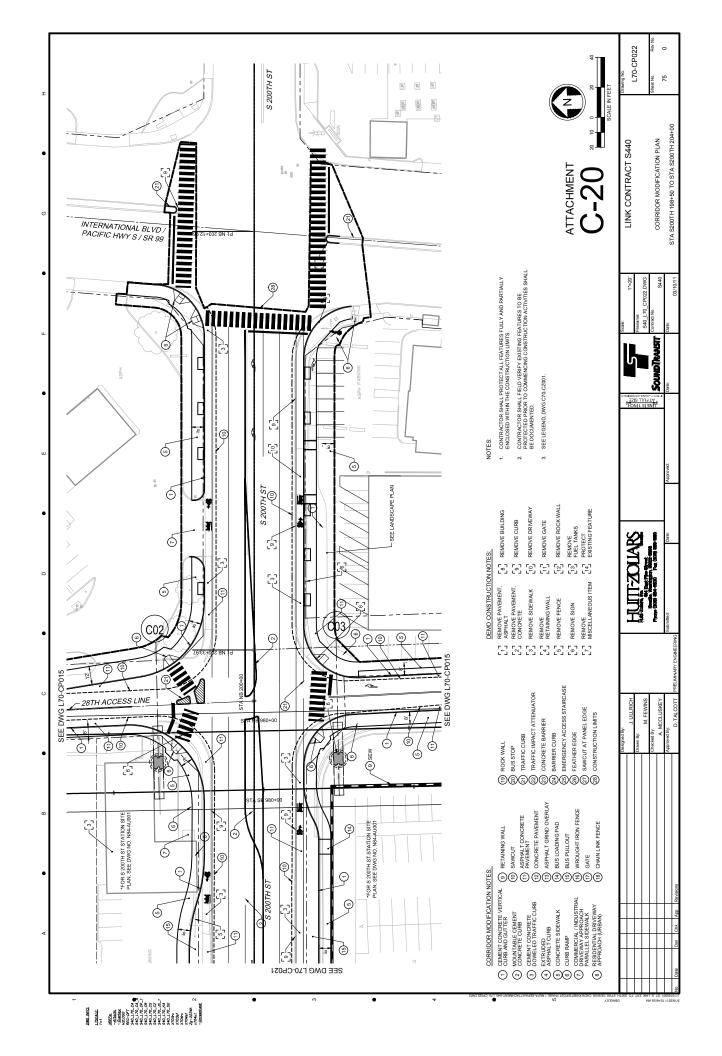


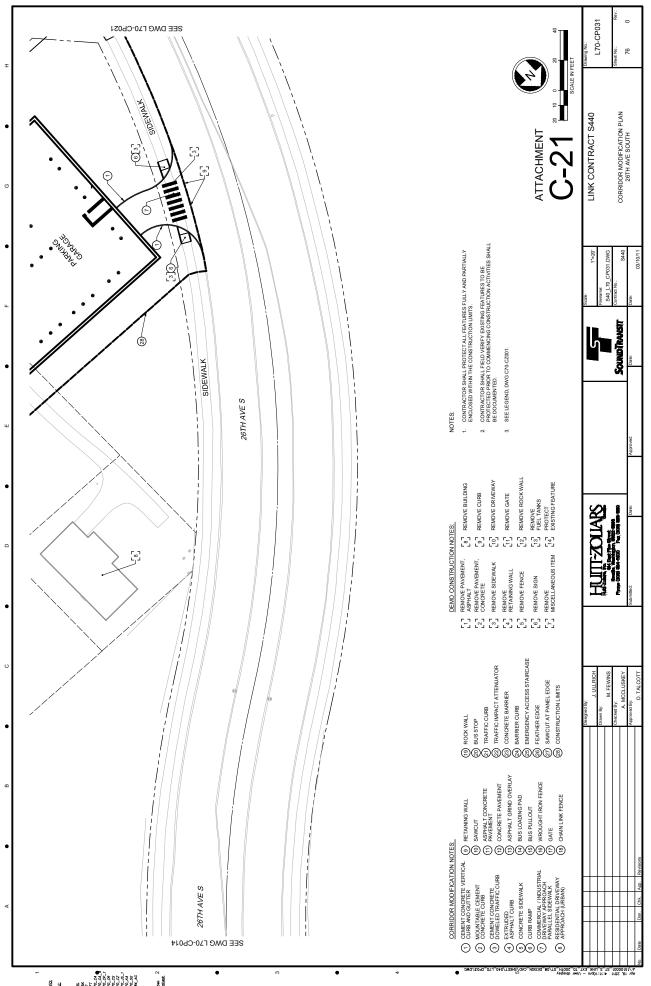


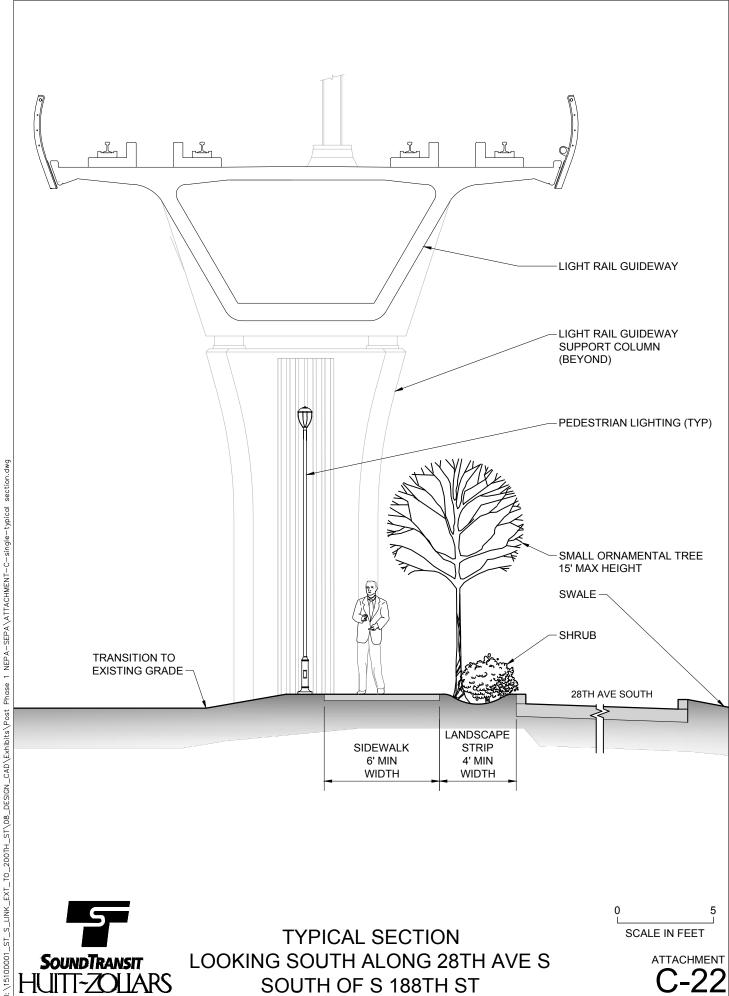




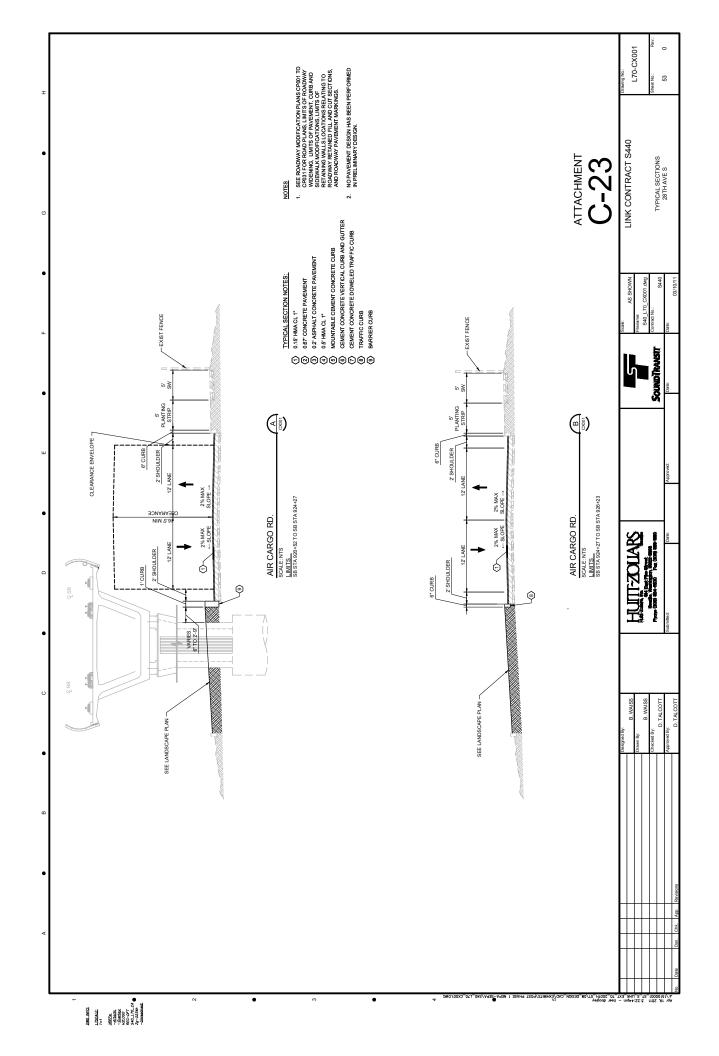


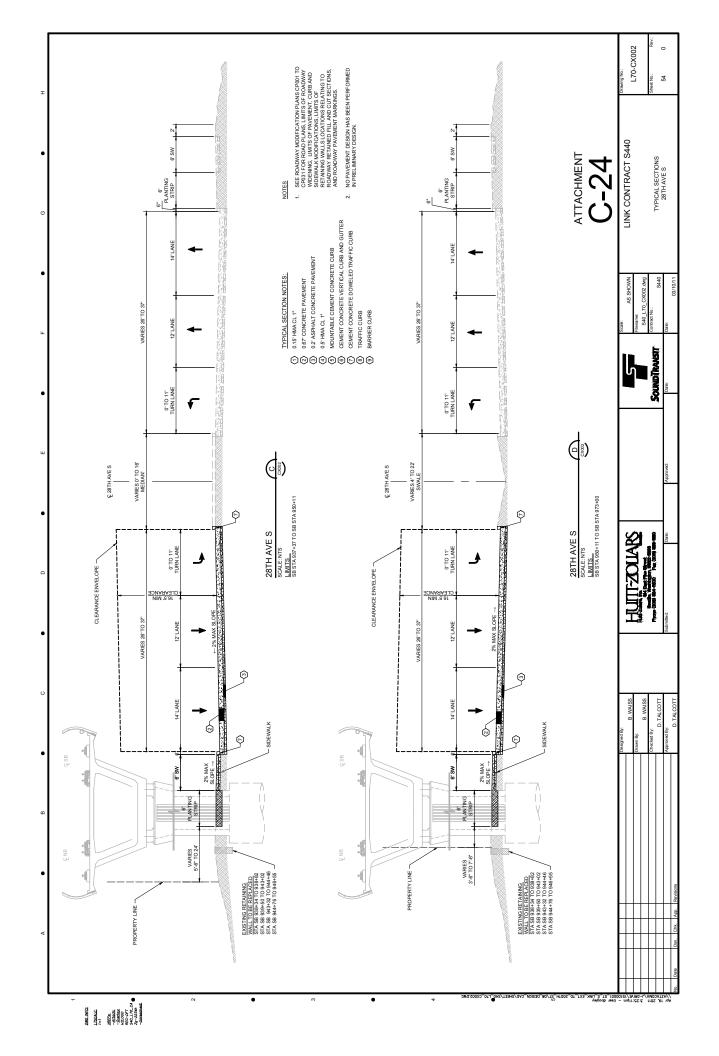


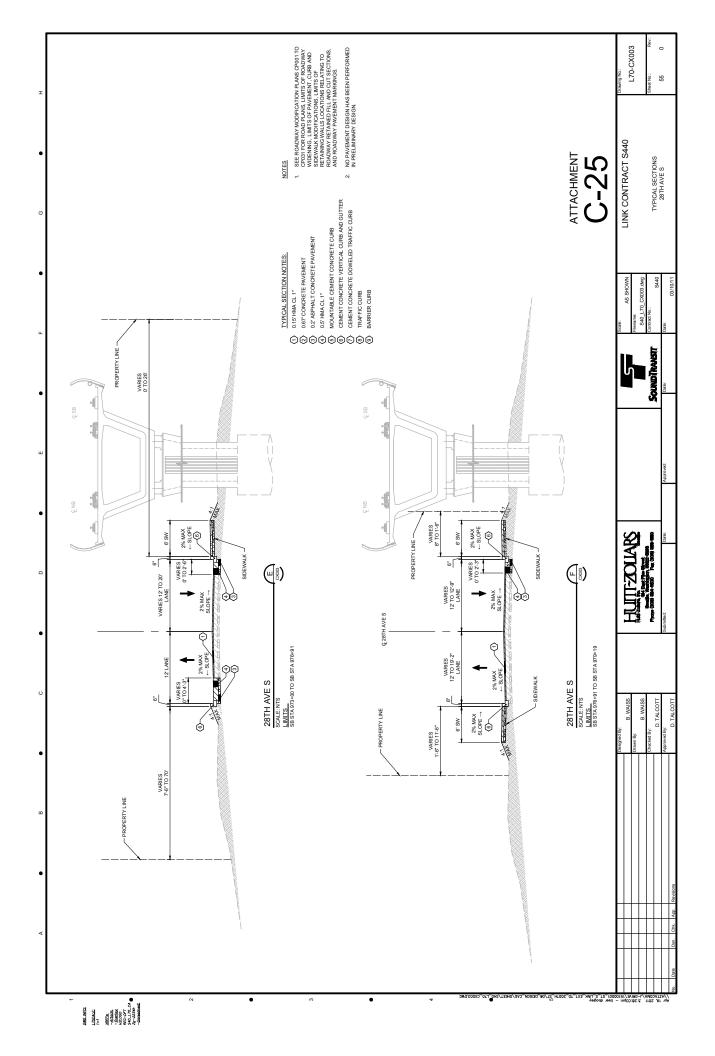


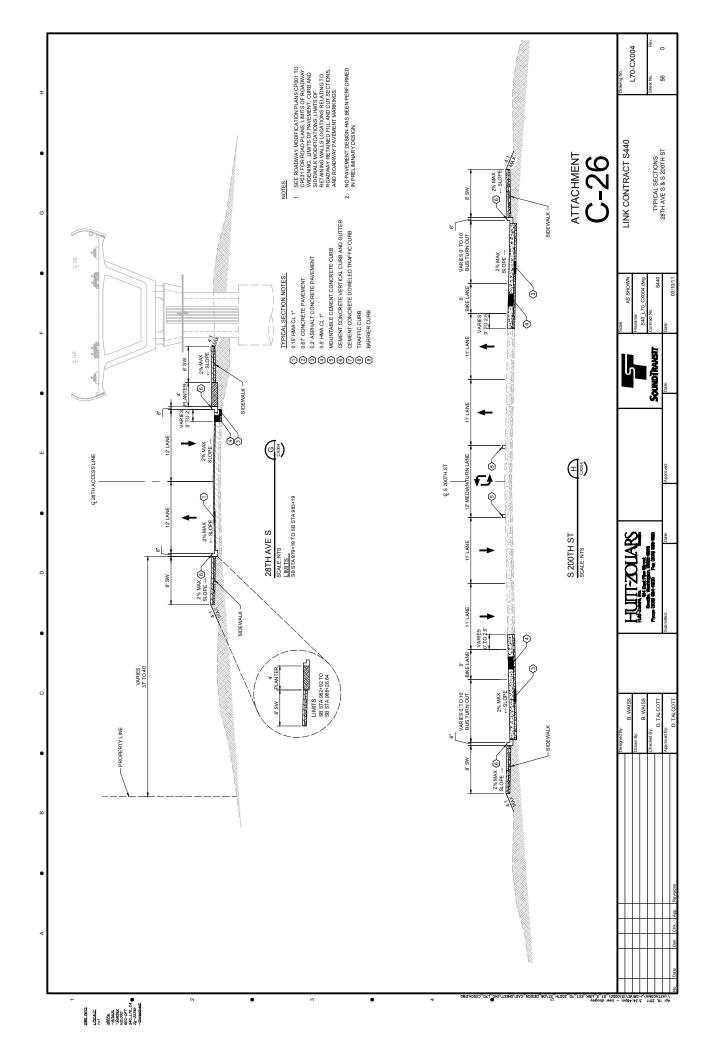


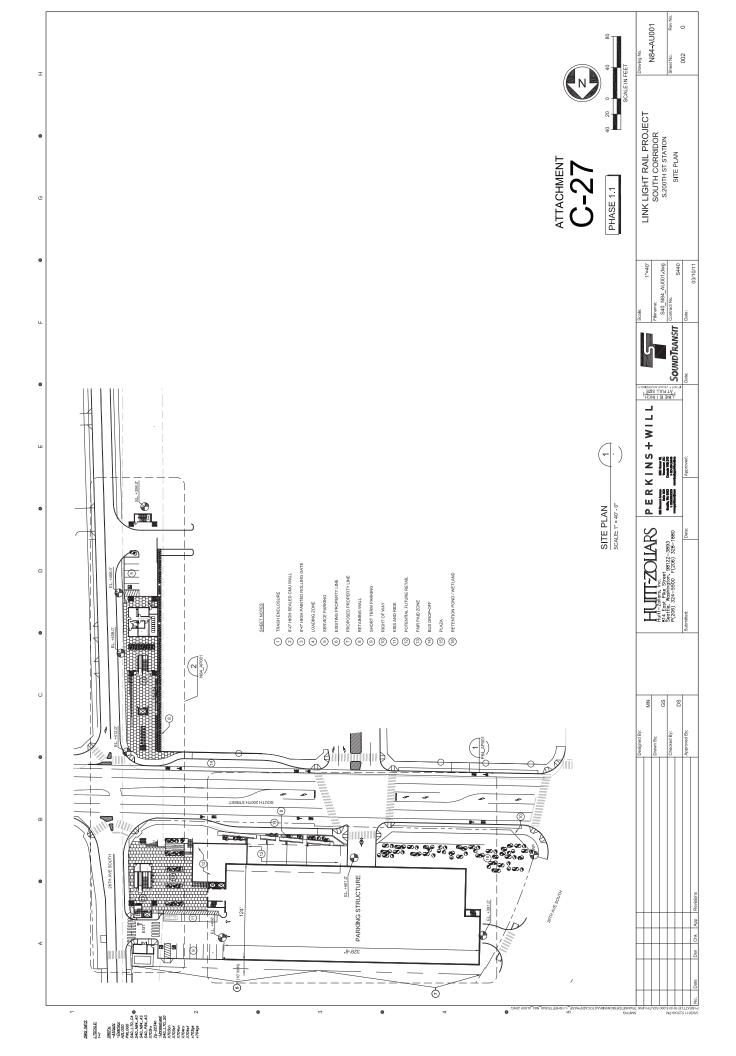
SOUTH OF S 188TH ST

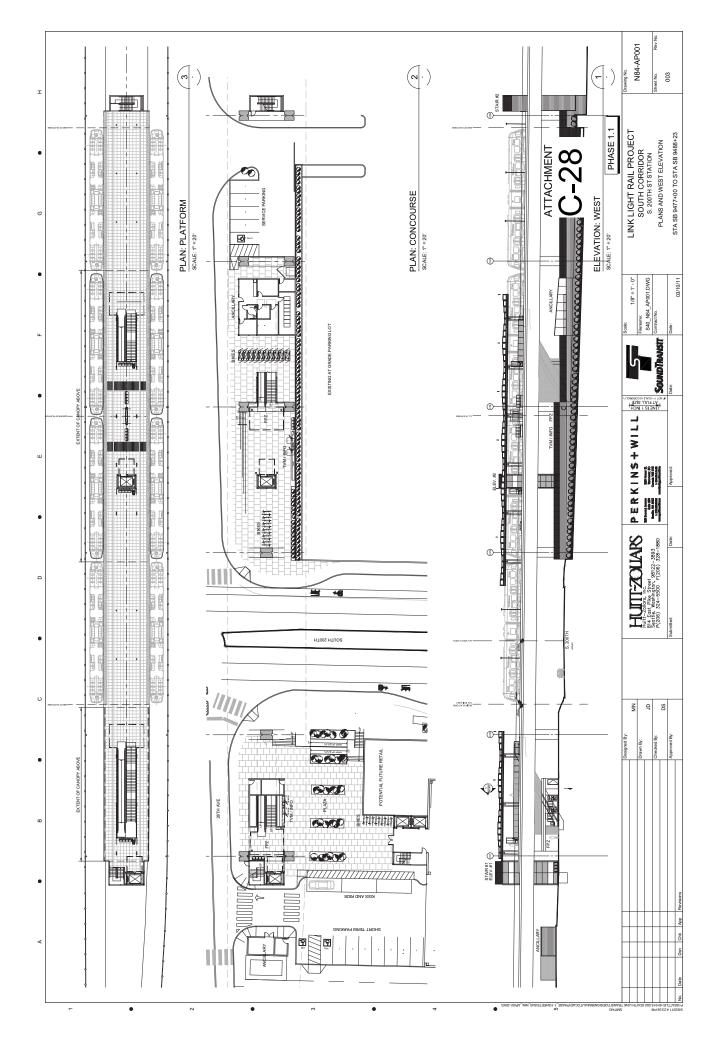




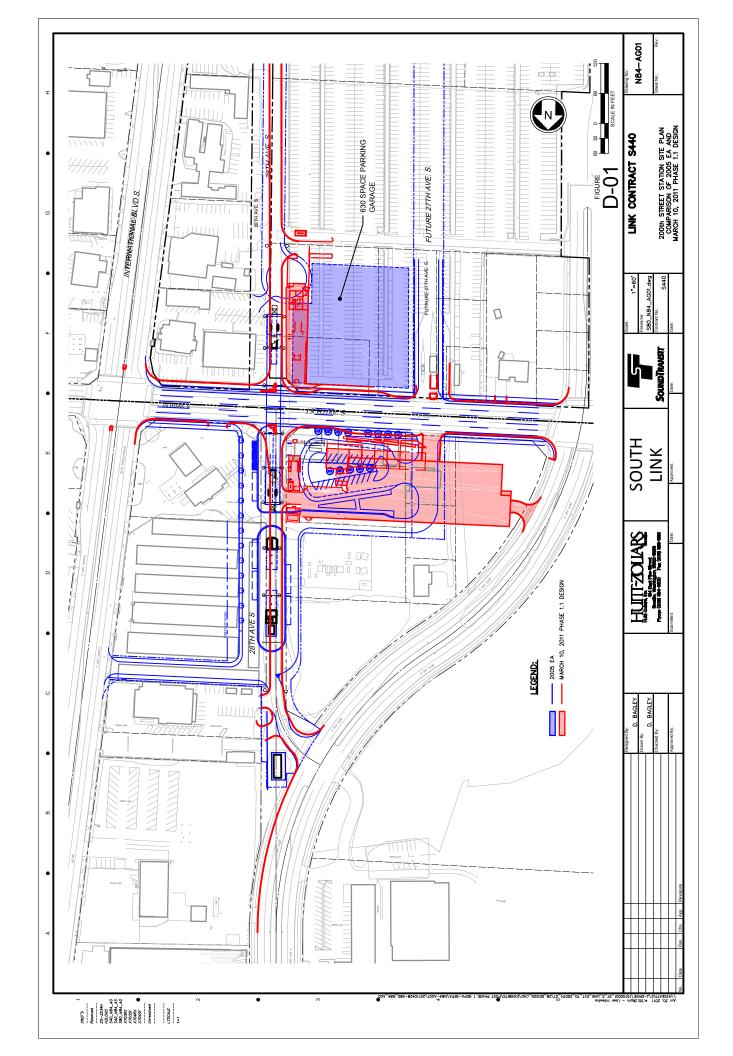


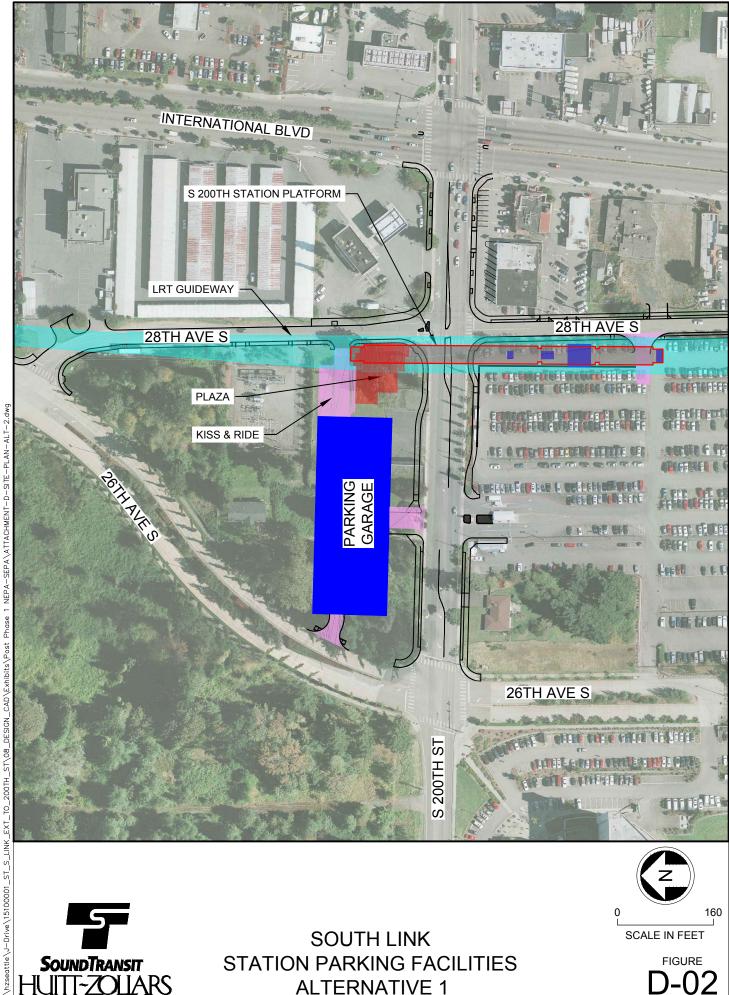






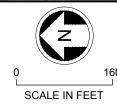
ATTACHMENT D: SOUTH 200<sup>TH</sup> STREET STATION PARKING FACILITIES



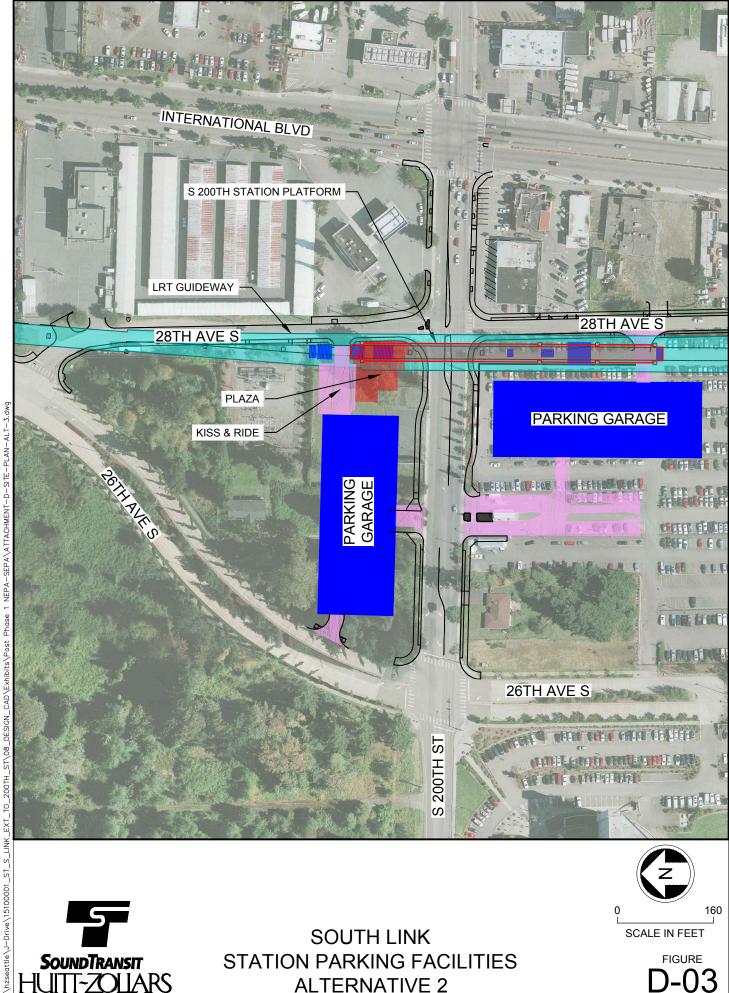




**SOUTH LINK** STATION PARKING FACILITIES **ALTERNATIVE 1** 

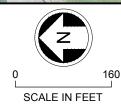


FIGURE

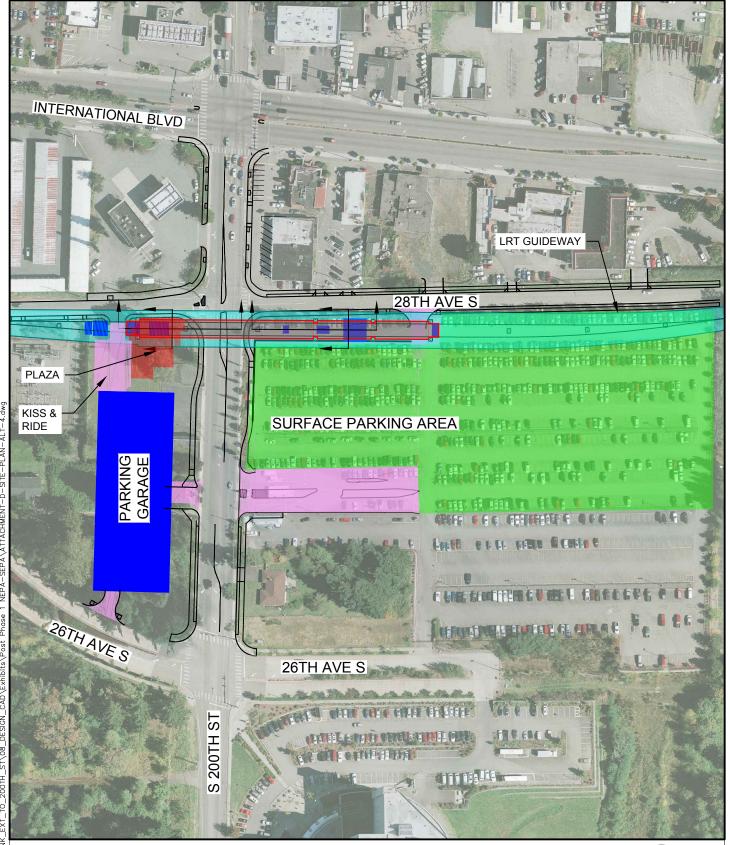




**SOUTH LINK** STATION PARKING FACILITIES **ALTERNATIVE 2** 

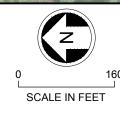


FIGURE





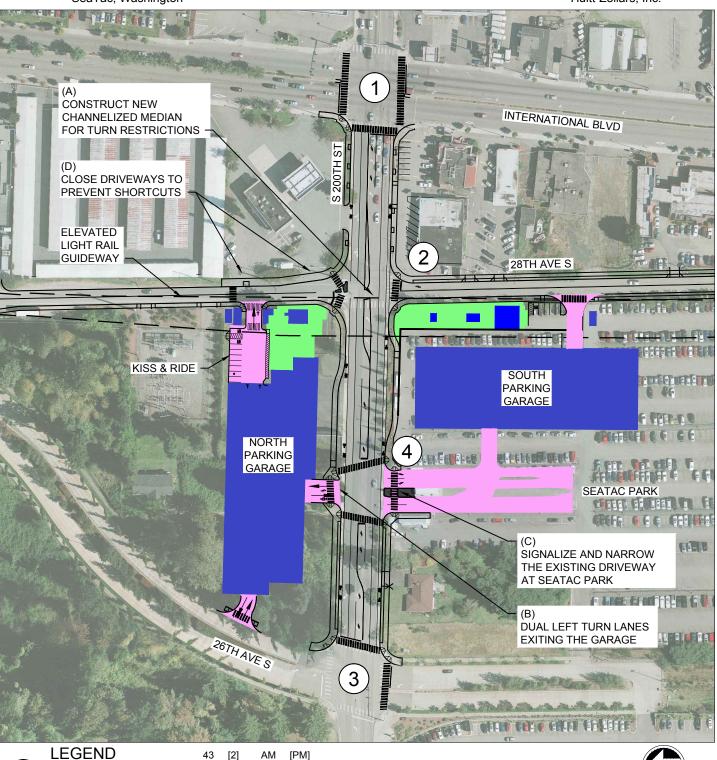
SOUTH LINK STATION PARKING FACILITIES ALTERNATIVE 3



D-04

ATTACHMENT E: TRANSPORTATION MITIGATION

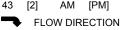
SeaTac, Washington Huitt-Zollars, Inc.





**LEGEND** 

INTERSECTION NUMBER





BUILDING (STATION / PARKING GARAGE)



VEHICLE ENTRANCE / EXIT



2015 TRANSPORTATION MITIGATION MEASURES ALTERNATIVES 1, 2 & 3

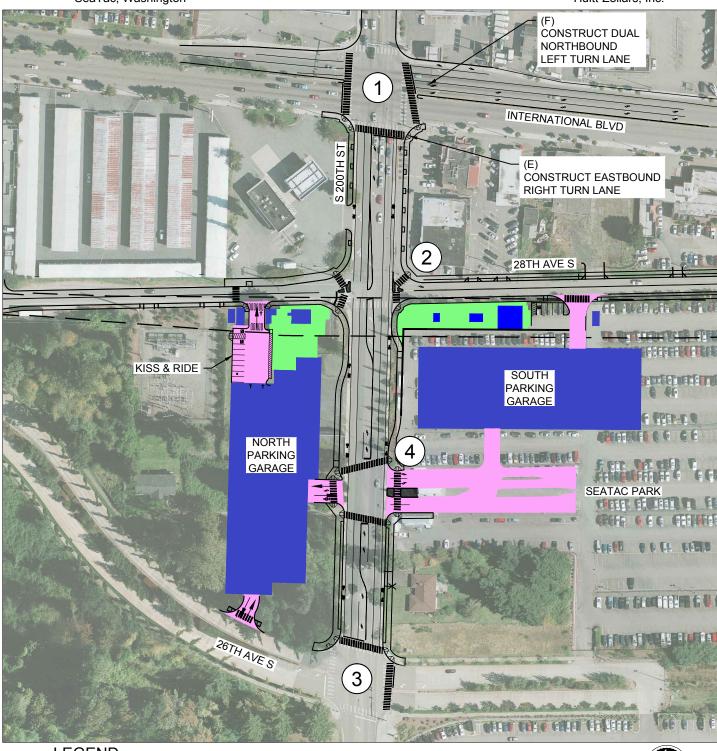


NOT TO SCALE

**FIGURE** 

E-01

SeaTac, Washington Huitt-Zollars, Inc.





) INTERSECTION NUMBER

BUILDING (STATION / PARKING GARAGE)

VEHICLE ENTRANCE / EXIT

STATION PLAZA

2030 TRANSPORTATION MITIGATION MEASURES ALTERNATIVES 1, 2 & 3



NOT TO SCALE

FIGURE

E-02

ATTACHMENT F: ACQUISITIONS, DISPLACEMENTS & RELOCATIONS

## **Acquisitions, Displacements & Relocations**

Building and operating the South Link light rail project would require acquiring property for right-of-way and other facilities and presumes displacing and relocating some of the existing uses. This Attachment presents the likely property acquisitions based on the 2011 Design Refinements. It is important to note that this list of acquisitions should not be interpreted as the final determination regarding property acquisition, and the list could be updated as the project design is refined. Furthermore, the estimates described in this Attachment reflect the existing conditions at the time the analysis was conducted. Accordingly, the number and/or type of displacements could vary between what has been disclosed in this Addendum and what is actually required because currently underdeveloped or vacant properties might be developed between the publication date of this Addendum and the time of construction.

There are two types of property acquisitions:

- Partial acquisitions would acquire part of a parcel and generally would not displace the
  existing use. In a few instances, some of the businesses or residential units on a parcel
  would be displaced.
- **Full acquisitions** would acquire the full parcel and displace the current use. Full acquisitions include parcels that might not be fully needed for the project but would be affected to the extent that existing uses would be substantially impaired (e.g., loss of parking or access). This may include parcels that would be acquired for construction activities

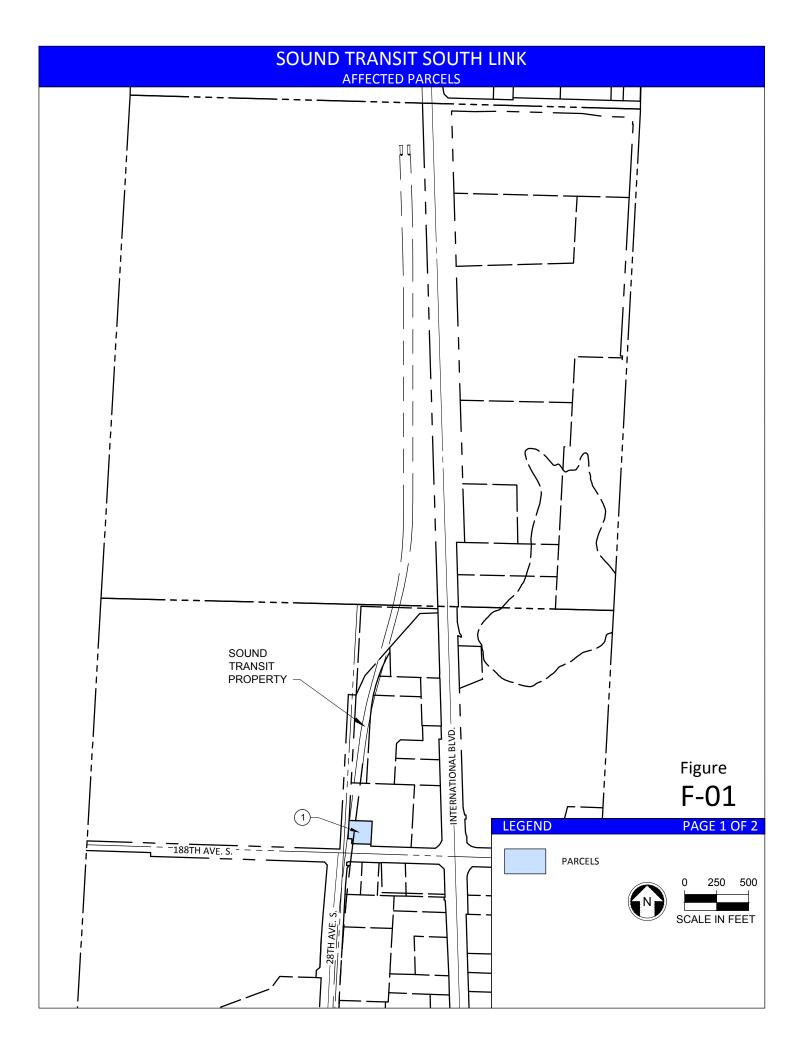
Table F-01 and Figure F-01 and F-02 in this Attachment present information on likely acquisitions. In addition to the potential property acquisitions described, the project would also require aerial easements, temporary construction easements and use of public right-of-way not listed here. Such aerial and temporary easements required for the project include the Port of Seattle property north of S 188<sup>th</sup> Street, properties located east of 28<sup>th</sup> Avenue South, and properties located south of S 202<sup>nd</sup> Street.

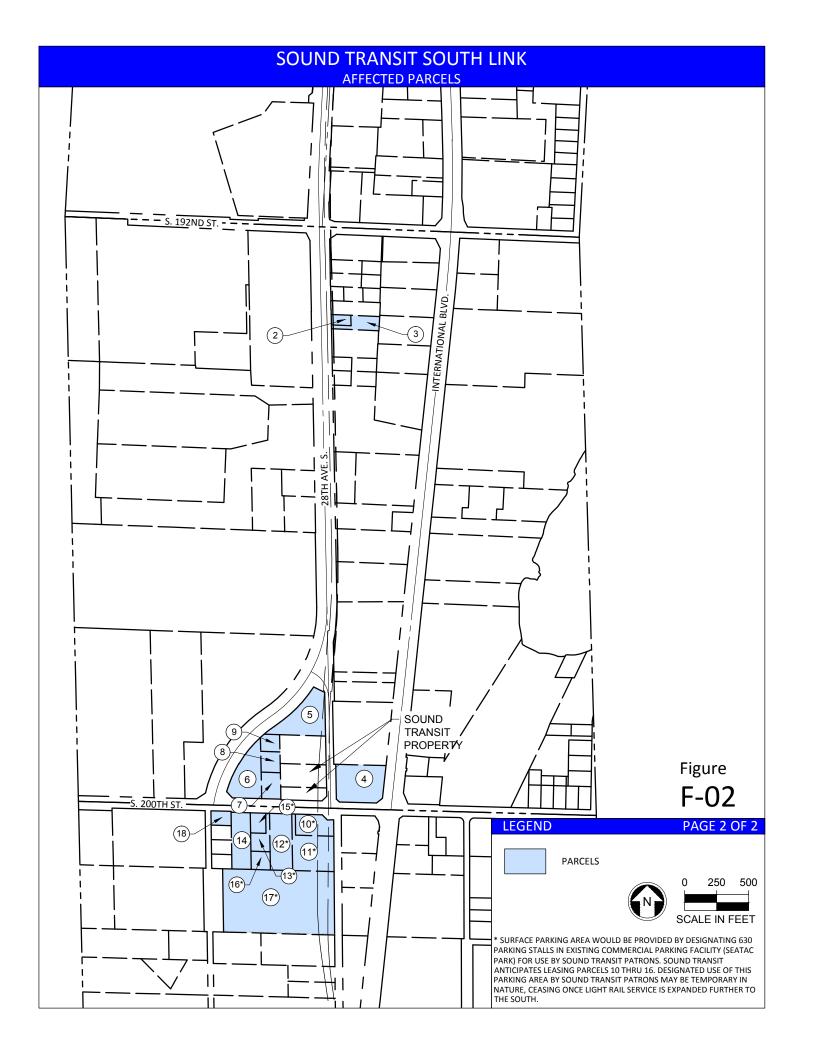
Table F-01. 2011 Design Refinement Property Acquisitions

Map ID	Parcel ID	Property Name	Site Address
1	3323049181	AM-PM Mini Market	2806 S 188th St
2	0422049259	Single Family Residential	19246 28th Ave S
3	0422049082	Vacant Land	28th Ave S
4	0422049189	Chevron Oil	19923 Pacific Hwy S
5	422049136a	SFR Airport Buy Out	2606 S 200th St
6	422049136b	SFR Airport Buy Out	2606 S 200th St
7	0422049179	SFR	2702 S 200th St
8	4220490239	Vacant Land	2708 S 200th St
9	0422049238	SFR	19908 27th Ave S
10	3445000033	Commercial Parking Lot	20005 28th Ave S
11	3445000035	Commercial Parking Lot	20025 28th Ave S
12	3445000032	Commercial Parking Lot	2709 S 200th St

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Map ID	Parcel ID	Property Name	Site Address
13	3445000036	Commercial Parking Lot	20015 S 200th St
14	3445000040	SFR	2617 S 200th St
15	3445000042	Commercial Parking Lot	2625 S 200th St
16	3445000043	Commercial Parking Lot	2627 S 200th St
17	3445000060	Commercial Parking Lot	20055 28th Ave S
18	3445000041	SFR Airport Buy Out	2607 S 200th St





## ATTACHMENT G: NOISE & VIBRATION

## Noise & Vibration

Evaluation of the noise impacts from the South Link Extension was based upon the change in the noise level from the proposed project at each sensitive receiver (residences and hotel rooms) potentially affected by project noise. The analysis was performed for 351 noise sensitive units within 350 feet of the proposed corridor. This includes 10 hotels, and five single-family residences. The analysis identified severe noise impacts at up to 153 hotel rooms, with moderate impacts to an additional 104 hotel rooms and 4 single-family residences.

Table G-01 Light Rail Noise Impact Analysis (Exterior), included in this attachment, provides a summary of the noise level projections for the South Link Project, and the impacts projected. There are two levels of impact included in the FTA criteria: severe and moderate, interpreted as follows:

Severe Impact: Project-generated noise in the severe impact range can be expected to cause a large percentage of people to be highly annoyed by the new noise and represents the most compelling need for mitigation. Noise mitigation will normally be specified for severe impact areas unless there are truly extenuating circumstances that prevent it.

Moderate Impact: In this range of noise impact, the change in the cumulative noise level is noticeable to most people but may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other project-specific factors must be considered to determine the magnitude of the impact and the need for mitigation. These factors include the existing level, the projected level of increase over existing noise levels, the types and numbers of noise-sensitive land uses affected, the noise sensitivity of the properties, the effectiveness of the mitigation measures, community views, and the cost of mitigating noise to more acceptable levels.

Table G-02. Vibration Impact Analysis shows a list of sensitive receivers, the distance to the nearest support column, and whether a vibration impact is predicted for that receiver.

Figures G-01 and G-02 indicate location of sensitive receivers and potential noise walls and vibration mitigation measures for noise and vibration impacts. Additional testing and analysis will be done at La Quinta Inn, Holiday Inn Express, and Marriott Fairfield Inn to determine compliance with the City's Sound Transmission Code, confirming the existing exterior to interior noise reduction is sufficient. Sound Transit would typically implement sound insulation of the hotel rooms where noise walls are not completely effective. There is a single building where vibration levels are predicted to exceed the criteria, a commercial structure on the northeast corner of S 192nd Street and 28th Ave S. Additional testing will be performed to verify the impact and determine measures to mitigate residual vibration impacts to comply with FTA requirements.

Table G-01. Light Rail Operational Noise Impact Analysis (Exterior)

Receiver, Parcel and Description			Number	Existing	Project	FTA C	riteria⁵	Impacts <sup>6</sup>	
Rec	Parcel <sup>1</sup>	Description	Units <sup>2</sup>	Noise (L <sub>dn</sub> ) <sup>3</sup>	Noise(Ldn)	Mod <sup>7</sup>	Sev <sup>8</sup>	Mod	Sev
R-1	1002000115	Coast Gateway (Upper Floor Near Units)	6	68	71	63	69		6
R-1	1002000115	Coast Gateway (Upper Floor 2nd Units)	18	68	70	63	69		18
R-1	1002000115	Coast Gateway (Upper Floor 3rd units)	18	68	66	63	69	18	
R-2	3323049059	La Quinta Inn (Upper Floor Near Units)	16	68	77	63	69		16
R-2	3323049059	La Quinta Inn (Upper Floor 2nd Units)	16	68	73	63	69		16
R-2	3323049059	La Quinta Inn (Upper Floor 3rd units)	16	68	68	63	69	16	
R-3	3323049102	Future Hampton Inn (Upper Floor Near Units)	16	68	69	63	69		16
R-3	3323049102	Future Hampton Inn (Upper Floor 2nd Units)	16	68	70	63	69		16
R-3	3323049102	Future Hampton Inn (Upper Floor 3rd units)	16	68	69	63	69		16
R-4H	3323049142	Quality Inn (Upper Floor Near Units)	8	69	63	64	70		
R-4H	3323049142	Quality Inn (Upper Floor 2nd Units)	8	69	62	64	70		
R-4H	3323049142	Quality Inn (Upper Floor 3rd units)	8	69	62	64	70		
R-5	422049092	Econo Lodge (Upper Floor Near Units)	8	69	64	64	70	8	
R-5	422049092	Econo Lodge (Upper Floor 2nd Units)	8	69	63	64	70		
R-5	422049092	Econo Lodge (Upper Floor 3rd units)	8	69	63	64	70		
R-6	422049104	19216 28TH AVE S	1	69	65	64	70	1	
R-7	422049105	19228 28TH AVE S	1	69	65	64	70	1	
R-8	422049100	19244 28TH AVE S	1	69	65	64	70	1	
R-9	422049259	19246 28TH AVE S	1	69	65	64	70	1	
R-10	422049241	Comfort Inn (Upper Floor Near Units)	12	69	72	64	70		12
R-10	422049242	Comfort Inn (Upper Floor 2nd Units)	12	69	67	64	70	12	
R-10	422049243	Comfort Inn (Upper Floor 3rd units)	12	69	64	64	70	12	
R-11	422049122	Hampton Inn (Upper Floor Near Units)	9	68	70	63	69		9
R-11	422049122	Hampton Inn (Upper Floor 2nd Units)	12	68	66	63	69	12	
R-11	422049122	Hampton Inn (Upper Floor 3rd units)	12	68	63	63	69	12	
R-12	422049231	Holiday Inn Exp (Upper Floor Near Units)	8	67	74	63	68		8
R-12	422049231	Holiday Inn Exp (Upper Floor Near Units)	8	67	68	63	68		8
R-12	422049231	Holiday Inn Exp (Upper Floor 3rd units)	8	67	65	63	68	8	
R-13	422049283	Marriott Fairfield (Upper Floor	3	67	78	63	68		3

Sound Transit
South Link SEPA Addendum

South Sepa Addendum

Receiver, Parcel and Description		Number	Existing	Project	FTA Criteria <sup>5</sup>		Impacts <sup>6</sup>		
Rec	Parcel <sup>1</sup>	Description	Units <sup>2</sup>	Noise (L <sub>dn</sub> ) <sup>3</sup>	Noise(Ldn)	Mod <sup>7</sup>	Sev <sup>8</sup>	Mod	Sev
		Near Units)							
R-13	422049283	Marriott Fairfield (Upper Floor 2nd Units)	3	67	70	63	68		3
R-13	422049283	Marriott Fairfield (Upper Floor 3rd units)	3	67	66	63	68	3	
R-13X	422049283	Marriott Fairfield (Upper Floor Near Units)	3	67	79	63	68		3
R-13X	422049283	Marriott Fairfield (Upper Floor 2nd Units)	3	67	71	63	68		3
R-13X	422049283	Marriott Fairfield (Upper Floor 3rd units)	3	67	66	63	68		3
R-14	3445000040	2617 S 200TH ST	1	68	58	63	69		
R-15	3445000049	Federal Detention Center	1	67	53	63	68		
R-16N	3445000070	Skyway Inn North (North Building Near Units)	4	69	65	64	70	4	
R-16N	3445000070	Skyway Inn North (North Building 2nd Units)	4	69	61	64	70		
R-16N	3445000070	Skyway Inn North (North Building 3rd units)	4	69	58	64	70		
R-16S	3445000070	Skyway Inn South (South Building Near Units)	12	69	60	64	70		
R-16S	3445000070	Skyway Inn South (South Building 2nd Units)	12	69	59	64	70		
R-16S	3445000070	Skyway Inn South (South Building 3rd Units)	12	69	58	64	70		

### Notes:

- 1. King County parcel numbers
- 2. Number of hotel rooms or single family residences
- 3. Existing area noise level in  $L_{dn}$
- 4. Noise from operation of the light rail; bold indicates projections exceed FTA criteria
- 5. FTA noise impacts criteria from the FTA, 2006.
- 6. Predicted number of homes or rooms with noise impacts; Mod = FTA Moderate Impacts; Sev = FTA Severe Impacts
- 7. Mod Moderate
- 8. Sev Severe

Table G-02. Vibration Impact Assessment

Rec # <sup>1</sup>	Description	Distance: Column to Structure (feet) <sup>2</sup>	Vibration Criteria <sup>3</sup>	Maximum 1/3 octave Vibration Levels <sup>4</sup>	Vibration Impact⁵
R-1	Coast Gateway Hotel	105	72 VdB	<60 VdB	No
R-2	La Quinta Inn	27	72 VdB	68 VdB	No
R-3	Future Hampton Inn	25	72 VdB	72 VdB	Yes
R-4H	Quality Inn	>100	72 VdB	<60 VdB	No
R-4V	Office Building	10	75 VdB	94 VdB	Yes
R-5	Econo Lodge	>100	72 VdB	<60 VdB	No
R-6	19216 28 <sup>TH</sup> Ave S.	23	72 VdB	72 VdB	Yes
R-7	19228 28 <sup>TH</sup> Ave S.	19	72 VdB	76 VdB	Yes
R-8	19244 28 <sup>TH</sup> Ave S.	67	72 VdB	48 VdB	No
R-9	19246 28 <sup>TH</sup> Ave S.	33	72 VdB	63 VdB	No
R-10	Comfort Inn & Suites	21	72 VdB	74 VdB	Yes
R-11	Hampton Inn	85	72 VdB	42 VdB	No
R-12	Holiday Inn Express	32	72 VdB	64 VdB	No
R-13	Marriott Fairfield Inn	22	72 VdB	73 VdB	Yes
R-14	2617 S 200 <sup>TH</sup> St	>100	72 VdB	<60 VdB	No
R-15	Federal Detention Center	>100	72 VdB	<60 VdB	No
R-16	Skyway Inn	49	72 VdB	54 VdB	No

### Notes:

- 1. Receiver locations are shown in Figures G-01 and G-02
- 2. Distance from nearest column to the structure
- 3. FTA vibration impact criteria
- 4. Maximum 1/3 octave vibration level
- 5. Structures identified with vibration impacts

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Figure G-01. Proposed Noise Walls and Vibration Mitigation (North)

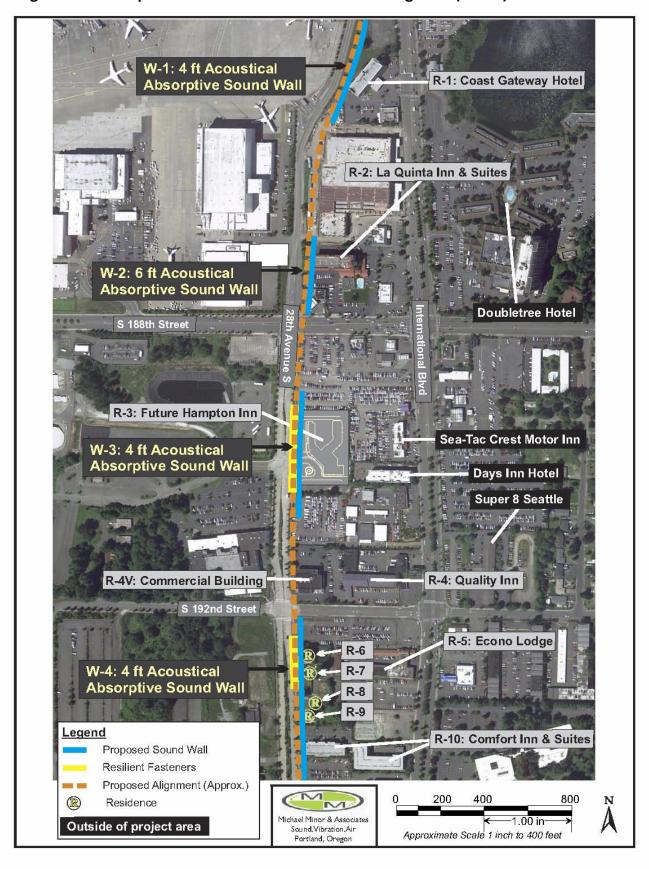
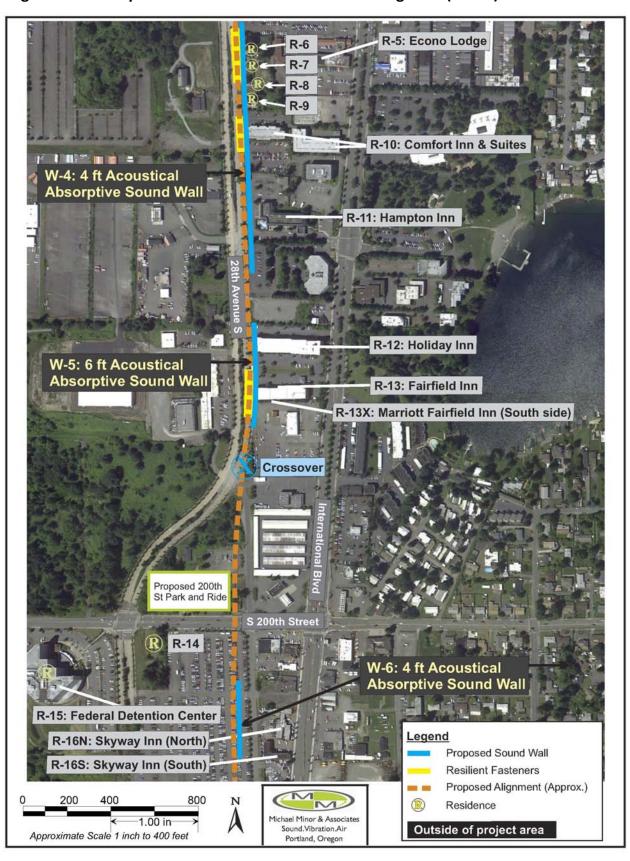


Figure G-02. Proposed Noise Walls and Vibration Mitigation (North)



## ATTACHMENT H: AGENCY CORRESPONDENCE



#### STATE OF WASHINGTON

# DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

January 26, 2011

Ms. Linda Gehrke
Deputy Regional Administrator
Federal Transit Administration
915 Second Avenue, Suite 3142
Seattle, WA 98174-1002

In future correspondence please refer to:

Log: 1:

120904-02-FTA

Property: Central Link -- Airport Link Component

Re:

NOT Eligible

Dear Ms. Gehrke:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The historic property inventory forms have been reviewed on behalf of the State Historic Preservation Officer under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. My review is based upon documentation contained in your communication.

DAHP concurs that the properties at 2617 and 2702 S. 200<sup>th</sup> Street are not eligible for listing in the National Register of Historic Places under criterion C. As a result of this finding, further contact with DAHP is not necessary. However, if additional information on the property becomes available, or if any archaeological resources are uncovered during construction, please halt work in the area of discovery and contact the appropriate Native American Tribes and DAHP for further consultation.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

Matthew Sterner, M.A. Transportation Archaeologist (360) 586-3082

matthew.sterner@dahp.wa.gov

100/28/2011 av 10:14

